



PILOTS SAVED AN ENTIRE NATION

WWII

Bringing History to Life

BRITONS AT WAR



D-DAY:

Invasion beaches flowed with blood

Deathly obstacles awaited on Omaha Beach



CHURCHILL GAVE NEW COURAGE TO THE PEOPLE
TERROR BOMBERS RAMPANT IN LONDON
DESERT RATS TURNED THE WAR

SINK THE BISMARCK

Hitler's largest vessel was fatally damaged



100 METRES TO FREEDOM

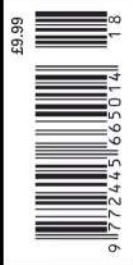
Prisoners escaped through narrow tunnel

CODEBREAKER GENIUSES

Bletchley Park exposed enemy plans



SINGAPORE FELL TO CUNNING ENEMY ★ DARING RAID SHOOK GERMANS



The first part of the paper discusses the importance of understanding the cultural context of the research. It highlights the need for researchers to be sensitive to the values and beliefs of the communities they are studying. This is particularly important in the field of education, where cultural differences can significantly impact learning outcomes.

The second part of the paper focuses on the methodology used in the study. It describes the qualitative approach adopted, which involves in-depth interviews and focus group discussions. The researchers aimed to explore the experiences and perceptions of the participants, rather than testing a specific hypothesis.

The third part of the paper presents the findings of the study. It discusses the themes that emerged from the data, such as the role of family in education and the influence of community norms. The researchers found that there were significant differences in the way that different cultural groups viewed education and its role in society.

The fourth part of the paper discusses the implications of the findings for practice. It suggests that educators and policymakers should take into account the cultural context of their students and communities when designing educational programs. This could involve providing additional support for students from disadvantaged backgrounds or incorporating culturally relevant content into the curriculum.

The final part of the paper concludes the study and offers some thoughts for future research. It suggests that further exploration of the cultural context of education is needed, particularly in the area of teacher education and curriculum development.



An entire nation defies Hitler



Luftwaffe bombs rain over London. Singapore has fallen. And German submarines sit off British shores. Surrender seems to be the only practical response to the seemingly invulnerable enemy.

But in the early hours of the morning on 28th March, the aging British destroyer *Campbeltown* – disguised as a German warship – slips into the mouth of the Loire River. The target is the city of Saint-Nazaire, home to the largest Nazi base on the Atlantic Ocean. After the raid, the

fleet base has been destroyed and oil stocks emptied. The little British force retreat and after several hours *Campbeltown* suddenly explodes into the air ravaging the base's huge dry dock. The operation proves the Nazis can be beaten.

A few months later, the gains from desert victories in North Africa breathe new life into the war, and Churchill's promise to fight until victory is won is suddenly plausible.

"Britons at War" tells the story of a nation that would not give up.

*Montgomery and his
Desert Rats outwitted Erwin
Rommel at El Alamein.*



1940-45



1940

6 **Miracle at Dunkirk**

400,000 soldiers are surrounded by German Panzer divisions.

1941

16 **Code machine gives British headaches**

Secret mission breaks the German Enigma code.

22 ***Bismarck* is hunted in the Atlantic**

German battleship *Bismarck* threatens Allied convoys.

1942

32 **Japan occupies Singapore**

British soldiers flee from Japan's cruel captivity.

42 **600 men sent on suicide raid**

British commandos sabotage a strategically key German port.

52 **Desert Rats send Rommel packing**

1,600 tanks collide in North Africa's biggest battle.

1943

62 **Enemy bombed from the depths**

New weapons will save vital British convoys from German subs.

1944

72 **Prisoners dig for freedom**

76 Allied prisoners of war flee from high security German camp.

82 **Hell on Omaha Beach**

The invasion of Omaha Beach becomes a total bloodbath.

92 **London hit by new terror**

Hitler believes the V-1 bomb can turn the war in his favour.


102 **Female agents cheat the Germans**

Spies in France assist La Résistance by using a team of women.

1945

114 **Brits take back Burma**

Japanese soldiers defend themselves by desperate means.

A black and white photograph capturing a chaotic scene during the Dunkirk evacuation. Several soldiers, wearing helmets and carrying gear, are being hoisted by ropes from a ship's deck. A large, striped buoy is visible in the lower left. The soldiers' expressions are weary, and the overall atmosphere is one of urgency and danger.

*On 26th May, 1940
the Dunkirk
evacuation took place.
The action brought the
British Army home to
protect British shores.*

1940

26TH MAY



• HISTORY'S LARGEST EVACUATION •

MIRACLE AT DUNKIRK

In 1940, 400,000 Allied soldiers struggle for life near the northern French city of Dunkirk. Surrounded on three sides by German armoured divisions and with their backs to the sea, the situation appears hopeless. But salvation arrives from the west as the Royal Navy undertakes history's largest evacuation operation.

Dunkirk, 1940

THE STAGE IS SET



On 10th May, 1940 Nazi Germany invades Belgium, Holland and France. The bulk of the British army are on the continent, trying to stop Hitler's lightning armoured divisions. Despite this, within a few weeks British and French soldiers are pinned back on the northern French coast near the town of Dunkirk.



"I HEARD THE STUKA COMING down in a vertical dive right on top of me. I was by now dulled by hours of explosions so that the imminence of death aroused no great feeling of fear. Either the bomb would land on me, or it wouldn't. I thought of Margaret in those few seconds of suspense, she brought me a sort of peace of the spirit. The next moment: Crash! Darkness! And then a vision of falling sand in front of me", recalled Lieutenant James Elliman.

Along with thousands of British and French troops the British lieutenant crouched behind the wreckage of a steamer desperately seeking shelter from German artillery in the northern French port city of Dunkirk on 28th May, 1940.

18 days earlier German troops had invaded France and in a Blitzkrieg movement had trapped the northern part of the

Allied army in a narrow area towards the English Channel. Nearly 400,000 British and French soldiers now faced being wiped out on the beaches at Dunkirk.

For the British the situation was disastrous. The 270,000 trapped British soldiers belonged to the country's elite – The British Expeditionary Force.

On 26th May, 1940 Britain's new Prime Minister Winston Churchill approved Operation Dynamo – the evacuation from Dunkirk. The goal was to save as many British soldiers from the pocket in northern France and bring them back to Britain where they could protect against a future German invasion.

ONLY 45,000 SOLDIERS COULD BE SAVED

From the beginning the Dunkirk evacuation was a remarkable collaboration between Royal Navy and British civilians. The

*On the beach at Dunkirk
German fighters mercilessly
attacked the encircled soldiers
who tried in vain to respond.*



fleet comprised of at least 38 destroyers, which immediately began sailing across the Channel to rescue the soldiers. Fleet Command estimated that it could evacuate 45,000 men before the Germans broke through.

But as soon as the operation became common knowledge, Brits came together to help their trapped countrymen. Ferry and shipping companies immediately sourced a further 250 larger vessels to participate in the evacuation. At the same time patriotic civilians volunteered for the military operation. More than 550 yachts and fishing boats stood ready on 27th May to give their all to Operation Dynamo.

The small, unarmed ships had to perform the most dangerous task of all: they had to cross the English Channel in convoys, and then be responsible for transporting troops from the shallow waters near the beaches to the larger, armed destroyers further out at sea.

WATER'S EDGE LITTERED WITH DEAD

Evacuation began in earnest on 28th May, where hundreds of ships began sailing across the Channel.

The sight that met the civilian fleet at Dunkirk was appalling: the dense smoke from burning oil tanks lay heavily over a whirl of small boats, waiting soldiers and powerful explosions at sea off the port city. The British soldiers had even lighted many fires in oil refineries in an attempt to block the view from the Luftwaffe's aircraft.

The water's edge was littered with dead and wounded, while the sound from endless German bombardments drummed in their ears. Soldiers in their hundreds waited in the channel in the cold water that measured just 12-13 degrees Centigrade.

"Men stood in the water up to their necks and shivered with cold when we pulled them on board in our rowboat", said one of the fishermen who had crossed the English Channel to help the fleet.

SMALL BOATS RETRIEVED SOLDIERS

Colin Dick – one of the volunteers – arrived at Dunkirk in a convoy of small boats on 29th May. His first order was to sail his motor launch *Advance* towards the beach to retrieve British soldiers before taking them to a nearby destroyer.

The air above Dunkirk teemed with German Stukas and Messerschmitt that sent bullets towards the evacuation boats.

"We had reached Dunkirk before *Advance* was shot at by low-flying planes. One of the planes crossed so low that it tore off the boat's mast", wrote convoy leader Lieutenant Dann.

Yet *Advance* chugged along towing a whaler through burning oil and mangled hulls towards the waiting queues of soldiers. Every time the whaler was filled with war-weary soldiers, Dick turned his course back towards the destroyer.

GERMAN PLANES FILLED THE SKIES

After delivering his cargo of men Dick saw at first-hand how the German planes aggressively attacked the destroyer. The

On 10th May, 1940 German troops pushed across the Belgian border. 10 days later they stood at the English Channel.



Germans halted a few kilometres from Dunkirk

German troops did not know why they stopped outside Dunkirk. It gave the British time to evacuate.

In May 1940 German Panzer divisions rumbled through northern France, heading for the English Channel. The aim was to trap the British Army in Belgium and northern France. On 20th May 1940, German troops reached the Channel. But they did not use this unique opportunity to crush the bulk of the British Army. Instead the Führer ordered the panzer divisions to halt the advance a few kilometres outside Dunkirk.

Field Marshal Gerd von Rundstedt later called the decision one of the Germans' biggest mistakes. Historians believe that Hitler thought that the British Army leadership had already realised the superiority of Germany's forces and would negotiate peace.

destroyer's captain attempted to take evasive manoeuvres by ordering full speed on the ship's screws; shortly after, the warship lurched forward with a sharp jerk.

From his boat Dick watched as soldiers who'd just exited his boat and were clambering up the nets on the side of the destroyer were flung into the sea. Three or four were immediately crushed between *Advance* and destroyer, while the others disappeared under the sea.

Boldly he continued his trips to the beach all afternoon – often in vain, as Dick explained: »

“The whaler’s seams had opened up... she was sinking rapidly”

Operation Dynamo saved 338,000 soldiers

The soldiers in Dunkirk were evacuated in three sea lanes. Minefields, sand banks, German submarines and gun emplacements along the coast made sailing dangerous for British ships.

The French destroyer Bourrasque struck a mine and was sunk soon after by German gun batteries on the coast. 500 men died.

Route 1 (161 km)

Ships that came the longest route, **avoided minefields and gunfire**, but were subject to attacks by German submarines.

Route 2 (101 km)

Sandbanks and minefields made the route dangerous. At the same time German aircraft repeatedly bombed the vulnerable ships.

Route 3 (72 km)

The ships were fired on by powerful guns at Gravelines, so the fleet only used this route at night.

0 10 20 30 40 50 km

28th May

The evacuation gathers pace
Hundreds of ships have arrived to collect the trapped troops.

Troops in Dunkirk 380,864
Soldiers evacuated 25,473

THE ENGLISH CHANNEL



31st May

The front line is only 15 km away
The British rear guard is struggling to keep the Germans at bay.

Troops in Dunkirk 211,717
Soldiers evacuated 194,620

THE ENGLISH CHANNEL



1st June

Dunkirk is surrounded
The British rear guard joins those trapped on the beach.

Troops in Dunkirk 147,288
Soldiers evacuated 259,049

THE ENGLISH CHANNEL



2nd June

Allies pressed against the sea
French soldiers are still struggling while Brits look out for boats.

Troops in Dunkirk 121,032
Soldiers evacuated 285,305

THE ENGLISH CHANNEL





After the war the town of Dunkirk awarded special medals to the French soldiers who had defended the city during the evacuation.

"A bomb fell close to our starboard side shaking us considerably; when we had got to our feet again we saw that, though there were no casualties, the whaler's seams had opened up, owing to the concussion, she was sinking rapidly. Stopped and took the men out of her and abandoned".

Dick continued to evacuate a total of 450 men before *Advance*, with water seeping into her hull, fought her way back across the Channel. His motor launch was so damaged that she couldn't participate in the remainder of the Dunkirk evacuation.

SHIP AFTER SHIP CRASHED

Not all ships managed the trip back across the Channel. Off the northern coast of France hundreds of sailors were injured or killed in the explosions. The destroyer *HMS Grenade* that docked at Dunkirk's only feasible mole on 29th May was immediately attacked vehemently by German planes. 19-year-old sailor Bob Bloom was in the destroyer's engine room when a Stuka bomb struck the ship with a direct hit:

"A bomb went down the ship's forward funnel and exploded. I was thrown up in the air and hit the deckhead. Then I fell back into the blast given off by the bomb. As it hit me, I put my hands up to my face to protect it. It felt as if I had been hit six times on the face with a whip. I was in such pain that I prayed to God to take me".

Sickbay attendant Bloom survived the attack. *HMS Grenade* did not. The warship was one of six British and three French destroyers that the Germans sank during the 10-day Dunkirk evacuation. 26 others were so badly damaged that they were subsequently declared useless.

Nine ferries sank along with an unknown number of small boats. The sinking ships filled the sea with dead and wounded, while survivors clung to the wreckage. It was chaos with soldiers jumping overboard from a sinking ship, only to be picked up by another, which then was hit.

CONGESTION SLOWS EVACUATION

While everything was chaos at sea, some form of planning prevailed on land. British officers attempted to use iron discipline to keep things organised, so not all divisions stormed towards the rescue boats simultaneously.

That morning, as Dick zigzagged across the Channel in his motor launch, British gunner Lieutenant Elliman was ordered to bring his complement of 40 men to the evacuation zone on the eastern beach.

Despite the army's clear evacuation orders the small gravel roads around Dunkirk swarmed with British and French troops in their thousands who tried to squeeze their way through the traffic-clogged jetty to the harbour at Dunkirk.

The soldiers' only hope of rescue was to board one of the small fishing boats before the Germans took the

An unknown number of Britons lost their lives during the fighting at Dunkirk.

3rd June

The Germans are 5 km away
Bombardment is too dangerous
and the last British ship departs.
Troops in Dunkirk 94,286
Soldiers evacuated 312,051



4th June

The last troops are evacuated
About 40,000 French soldiers and
28,000 Britons are left behind.
Troops in Dunkirk 68,111
Soldiers evacuated 338,226



■ Trapped British and French soldiers

narrow strip of land that was still in Allied hands. The thousands of soldiers on the road stopped all traffic and forced Elliman to leave his Humber truck outside Dunkirk.

So as not to fall into German hands, Elliman's truck along with hundreds of other vehicles was set on fire. The air above the French port filled with smoke, which helped to hinder the view of the pilots in the devastating German fighter aircraft.

In the grey daylight Elliman's soldiers continued on foot towards the last bridge over one of Dunkirk's canals:

"Suddenly I heard a swish! and an explosion. A cloud of smoke and earth was pitched into the air just to the left of the bridge... A couple of officers climbed down, and swam across the canal. But... I decided to go on within 50 yards [around 45 metres] of the bridge... and then sprint across to the other

side... So I dumped my haversack and we made our dash, and got well into the fields beyond the canal before pausing for breath... The enemy scored a direct hit on the bridge... just after my last gunner had got across it", recounted Elliman.

KILOMETRE-LONG QUEUES WAITED FOR HOURS

The blasted bridge split the Allied troops in two: those who fought against the Germans on the other side of the canal, and those who were in temporary safety on the north-western side of the river. The deployment area was packed to capacity with Allied troops, who stood in kilometre-long queues in the sand and into the waves.

When Elliman reached the beach, he felt no relief – only anxiety: "The sandy beach was about 100 yards [around 90

"We failed to move forward..."



The British media rejoiced over the gigantic joint effort that miraculously saved over 300,000 British soldiers from German war captivity.

metres] wide. Down the centre stood the line of men, three abreast. The smoke... from the burning oil tanks drifted eastwards over the town... And then it started", reported Elliman. "A formation of high fliers dropped stick after stick of bombs. The first attack was almost unnerving... You felt so completely exposed on the beach... For a while some of us huddled under the hull of the wrecked steamer".

When the attack stopped, the lieutenant immediately ordered his troops in line. The battle for places was intense, with new troops flowing constantly down from the dunes.

PLANES ATTACKED SOLDIERS ON THE BEACH

The picture was the same everywhere: soldiers marching or standing in the sand. The lucky ones crouched in the dunes,

but most had to wait on the beaches or in the waves, while German dive bombers attacked them. Fortunately, the bombs often burrowed into the sand before they exploded, which absorbed most of the blast and the metal splinters.

After half a day in one of the long queues evacuation command ordered Elliman's division to the city's only remaining harbour. Here a fleet of larger ships stood ready to evacuate the exhausted troops.

Disappointed, Elliman noted that the hardships for his men were not over. There were too many men for the available space on the insufficient number of ships.

"Thousands of men stretched away behind us. But we failed to move forward... Only the wounded got away that night... As the hours went by, the spirits of

only the wounded got away"



Although British officers tried to organise the flow of men, soldiers waited for days on the beach under German fire.

“1,000 men remained on the pier. They stood at attention”

all must have been sinking. Mine certainly was. Sleep was impossible. It was just waiting, waiting, waiting”, said Elliman. It wasn't until the next morning on 30th May that his ship headed into Dunkirk.

BRITISH DESTROYER SINKS FISHING BOAT

Even the lucky ones who had been given space on the ships found themselves in imminent danger. Tragedy struck early in the morning 30 kilometres out in the English Channel, while Elliman's soldiers were still waiting in Dunkirk's harbour.

The commander of the destroyer *HMS Lydd* panicked after a German torpedo sank the British minesweeper *HMS Wakeful*. The captain ordered all the lights on the ship off and then bombarded blindly what the crew thought were the contours of a German torpedo boat.

Then *HMS Lydd* rammed the boat and split it into two. The panicked survivors were subsequently fired upon with rifles

and left to drown. Only too late did the crew of *HMS Lydd* discover the truth: the torpedo boat was an English fishing boat *Comfort*, and the German soldiers were English sailors who had fought for their lives. None of the sailors survived the attack by the British destroyer.

Meanwhile, as the front drew nearer, the situation on the narrow beach became more and more desperate.

WOUNDED LEFT TO DROWN

On 1st June, the remnants of the British rear guard arrived at the port area to be evacuated. Major Rupert Colvin was one of the last British officers to be ordered to leave his post in

Churchill examines a Tommy gun when visiting soldiers at the British defence lines in July 1940.

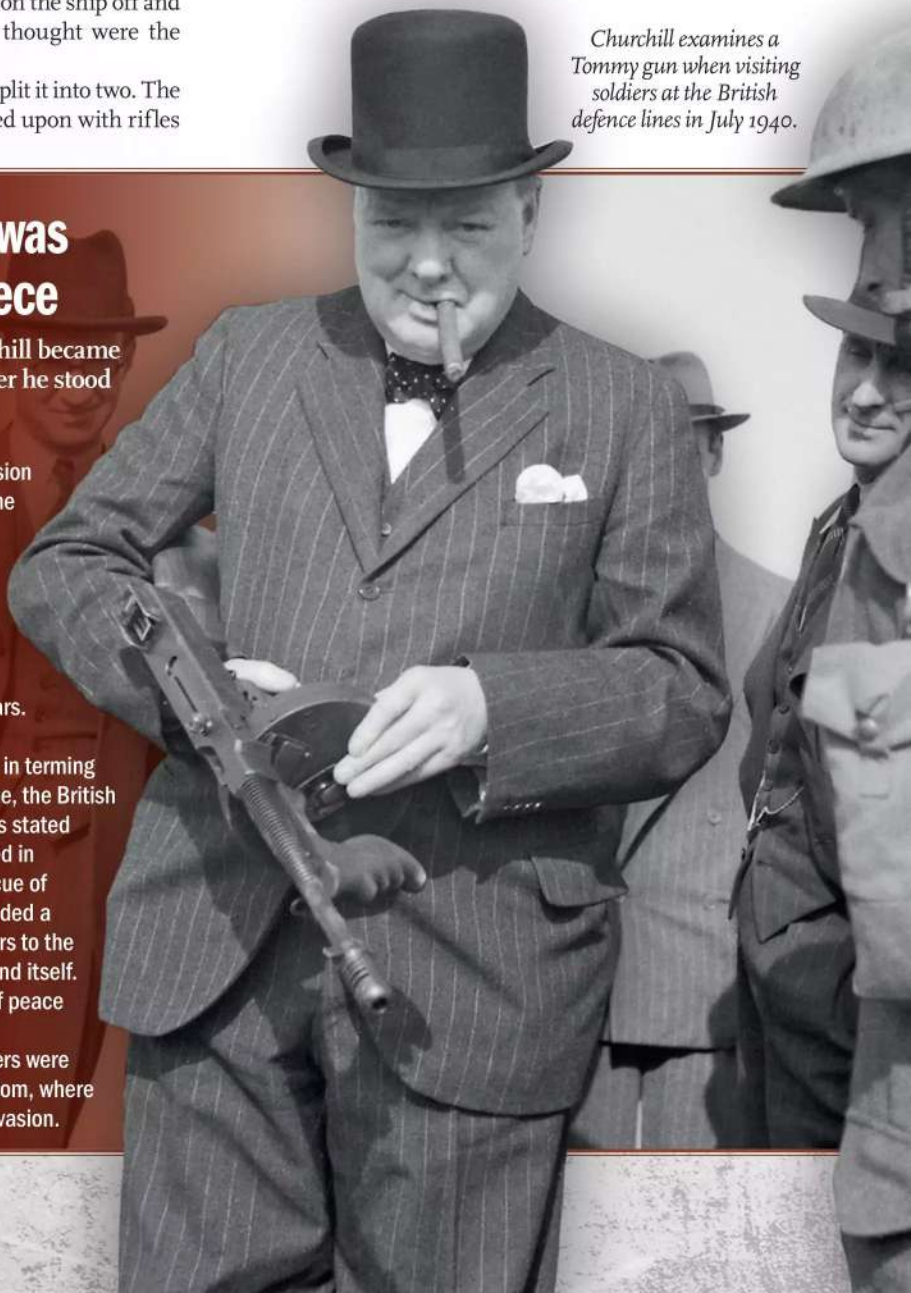
Operation Dynamo was Churchill's party piece

On 10th May, 1940 Winston Churchill became prime minister. Only two weeks later he stood behind the rescue at Dunkirk.

Only hours before Nazi Germany's invasion of France in May 1940 First Lord of the Admiralty Winston Churchill succeeded Neville Chamberlain as Prime Minister. Before the war Britain's new leader had already been a fierce opponent of the Hitler regime, and he opened his tenure with a famous speeches in which he promised the British blood, sweat and tears.

It was Churchill who gave the order for Operation Dynamo and he didn't hesitate in terming the evacuation a miracle. At the same time, the British population cheered while the British press stated that the impending catastrophe had ended in triumph. The Royal Navy's successful rescue of British and French forces at Dunkirk provided a morale boost and returned enough soldiers to the British Isles so the empire could still defend itself. Thus the evacuation ended all thoughts of peace negotiations with Nazi Germany.

On return, most of the evacuated soldiers were deployed into defending the United Kingdom, where they helped to deter the Germans from invasion.



Dunkirk. He reported how the dunes and the beach were covered with dead and wounded soldiers who couldn't find shelter from German artillery shells.

In an hour Colvin and his men helped the helpless board one of the many small boats that stretched toward the beach. But the Germans fighters eventually made the rescue operation so dangerous that Colvin had to give his soldiers the order to withdraw. Unlike the previous days when the army had prioritised evacuation of the wounded, they would now be left to the Germans and the tide.

British 2nd Lieutenant Julian Warde-Aldam described how the beach literally flowed with blood, and "the cries of the wounded, as they clutched at our ankles as we went past, were heartrending. [Unfortunately] there was nothing we could do for them".

On 3rd June, the last Britons were rescued from Dunkirk. Around 60,000 French soldiers were still fighting to defend the port city and buy time for their escape across the Channel.

THE LAST SHIP LEAVES DUNKIRK

The next day the evacuation of the French took off in earnest, and almost 20,000 were transported to Britain. But on 4th June German field guns were so close to the port area that the risk to incoming ships grew too great. About 40,000 French soldiers were left to their fate, while senior officers left the battlefield. French general Barthélemy reported the scene as the last ship left.

"1,000 men remained on the pier. They stood at attention along the length of it. The general and his staff stood about 30 feet [nine metres] away from them, facing them, in the faint light of the dawn with the flames bringing faces and helmets into sharp relief. The general saluted, the men returned the salute; and then he turned about, climbed down into the boat. And they went out at 03.20".

The boat sailed them out to the French destroyer *Shikari*, which was a few hundred metres from the coast. The ship's deck was filled with French soldiers could clearly hear gun battles from the edge of the city between their surviving comrades and the Germans' advancing troops. In the grey morning light at 04.00, the destroyer put out to sea. *Shikari* – the last ship to leave Dunkirk – brought the total number of evacuees up to 338,226 men. 68,111 were left behind or paid with their lives during the rescue operation.

Beach littered with equipment

The rapid evacuation from Dunkirk forced British soldiers to leave the bulk of the army's heavy equipment on the French beaches.

SHIPS A fleet of vessels from Britain and the Allied countries participated in the action. Many went down the way.

6 British destroyers were sunk by Germans during the evacuation.

297 ships in total – both military and civilian – were lost.

PLANES Spitfires and Hurricane fighters fought fiercely to protect the waiting soldiers and ships in the Channel.

145 British aircraft were destroyed by the Luftwaffe. 42 were Spitfires.

VEHICLES Over 80,000 different vehicles remained. Some were destroyed, but many could be reused by the Germans.

432 tanks.

20,548 motorcycles.

63,879 other vehicles, including jeeps and trucks.

ARTILLERY AND SUPPLIES Artillery guns and many tonnes of ammunition and fuel were left.

2,472 guns of various calibres.

76,097 tonnes of ammunition.

164,929 tonnes of fuel.

415,940 tonnes of supplies.



Bombed-out vehicles were used as moles where the ships docked. In other places soldiers waded through water to the ships.

• • SECRET MISSION • •

CODE MACHINE GIVES BRITISH HEADACHES

Early in the war, the Germans are able to broadcast radio messages about attacks and troop movements – and thanks to the Enigma machine, the Allies can't understand a thing. It will take thousands of code-breakers and a series of top-secret naval raids before the British are able to eavesdrop on the Germans' secret.

1941

9TH MAY

The Enigma machine
was the size of a
typewriter, but
was packed with
advanced technology.



THE STAGE IS SET



Shortly after Britain's declaration of war against Germany, British intelligence brings together some of the brightest minds in the country at Bletchley Park, north-west of London. The team has one task: the German Enigma code must be broken, so the British can listen in on the German exchange of military secrets.



NOTORIOUS U-BOAT COMMANDER FRITZ-JULIUS LEMP stood on the deck of his crippled submarine. As bullets and shells from British warships shot past his ears, Lemp realised that he'd reached the end. One of the crew members had just had his eye taken out by a bullet. And a shell had blown another's brains to smithereens out into the Atlantic.

As radio operator Heinz Wilde emerged from the submarine's tower and asked if he should destroy the vessel's coding machine, the usually confident Lemp reacted defeatedly and commanded his subordinate hurriedly: "The submarine is sinking!"

The captain himself jumped into the waves. A few minutes later he was gone – but *U-110* was not.

Before long, a British ship from the convoy Lemp had previously targeted sent a search party to the damaged submarine led by Lieutenant David Balme. With hearts pounding in their chests, the Brits crawled into the submarine's darkness. No one knew if there were still German sailors in there – or whether a timed detonator might suddenly set off an explosion in the submarine.

In the radio room, telegraphist Alan Long had discovered a strange instrument. On a table stood a box that resembled a typewriter.

When pressing one of the 26 letter keys on the machine, a light lit up with a completely different letter above the keyboard. What Balme and his search team had found was the latest edition of the German legendary code machine Enigma

– an advanced electro-mechanical encryption device that could transform German intelligence and orders to incomprehensible gibberish. Balme's discovery on 9th May, 1941 was immediately marked secret and code-named Operation Primrose. And it would prove to be one of the events that allowed the Brits to crack German-coded communications for most of the war.

CHESS MASTERS BROKE CODES

A few days previously another search team north of Iceland had captured the German reconnaissance vessel *Munich* and hijacked a set of code books, ones the Germans used every day to synchronise their Enigma machines.

The spoils of both missions combined to make an intelligence breakthrough. And many thousands of kilometres away, at Bletchley Park House between London and Birmingham, the hauls from *Munich* and *U-110* awoke an immediate interest. In barracks built around the majestic main building of the medieval manor house, a group of mathematicians, linguists, chess masters, bridge players and crossword players worked around the clock to break the Germans' encrypted messages.

The problem was not intercepting orders and reports; Hitler's people trusted their Enigma machines so blindly that they boldly communicated via radio. Understanding them, however, was another matter entirely. Enigma machines could be set 159 trillion different ways, and you would only be able to decode the message if you knew the machine's settings at the beginning of the entry.

To help with the mammoth-sized task, the people at Bletchley Park had a line of similarly mammoth-sized machines known as "bombes". Around the clock 2,000 female Navy personnel fed the machines intercepted gibberish; then the appliances ticked through millions of possible combinations until they had narrowed the field of potential to a size that the code-breakers could work on.

The Germans constantly improved their Enigma machines, equipping them with new settings and changing the procedures operators should follow. Each time they did British code-breakers had to improve their bombe machines and invent new ways to break the encryption.

The Enigma machine had already been invented by electrical engineer Arthur Scherbius in 1920, and

90,000

German messages
a month reached
the people at Bletchley
Park for them to
decipher towards
the end of the war.



A team of Britons headed (right) to the sinking submarine *U-110* aboard which was one of the most important catches of the war.

Enigma was a technical marvel

The encryption machine was filled with unique technology, and the British had to get their hands on a copy to crack the code.

The genius of Enigma was that the same letter was never translated the same way twice in a row. With each new keystroke the wheels turned so that the code for a letter was constantly being updated.

1 The operator keys a letter and generates an electric signal.

2 Plugboard transforms the electrical signal for a character to signal another: for example, the signal from the "T" to the signal of "K".

3 At the static rotor the current flows through to the scramblers which rotate one notch each time. This makes it impossible to predict which letters appear.

4 A reflector returns the signal and sends it along a new path back through the wheels.

5 The signal passes once again through the scrambler, which in turn changes the letter.

6 A lamp lights up with the final encryption.

Rotary wheels

Reflector

Lamp board

Keyboard

Plugboard

Tilt wheel

Reflector

Using a special mechanism, the electrical signal is reversed.

Electrical signal

Plugboard

Provides the connection between the keyboard and the rest of the machine.

Static wheel

Z P H N M S W C I Y T Q E D O B L R F K U V G X J A
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Keyboard

Q W E R T Z U I O
A S D F G H J K
P Y X C V B N M L

Lightboard

Q W E R T Z U I O
A S D F G H J K
P Y X C V B N M L

CODE MACHINE



When the code-breakers in a barrack at Bletchley Park had deciphered the Germans' messages, they were sent on to the next translation in another barrack. Approximately 9,000 employees made sure that code-cracking could take place around the clock.

German command soon realised the machine's potential. Enigma's great strength was that a letter was never encrypted the same way twice.

To decode an Enigma message one should therefore have an Enigma machine (or at least a copy) and know the sender's setting of his machine. If you had this, decoding was as simple as entering the encoded message: clear text would light up on the panel, letter by letter.

POOR ASSISTANT STOLE DRAWINGS

The Allies' first major breakthrough in the battle to crack the Enigma code was already underway in 1931 before the Nazi takeover. In a lavish suite at the Grand Hotel in the Belgian border town of Verviers Hans-Thilo Schmidt came to the door. Schmidt was the poorly paid assistant to the head of the German Ministry of Defence's encryption office, and he was struggling to make ends meet.

In the hotel suite Schmidt met with Rodolphe Lemoine, a French intelligence agent, who immediately pricked up his ears when he heard about Schmidt's access to a special

safe. In the safe Schmidt's boss stored confidential documents about the German defence's communication encryption. Lemoine offered a large sum for the information, and the week after the German handed over blueprints for the Enigma machine.

The French shared Lemoine's intelligence scoop with their colleagues in Poland, who built a copy and could already decode German military messages by 1932.

After some years, however, a problem arose. A new operating procedure for Enigma operators in the Kriegsmarine (German Navy) in 1937 prevented the Poles understanding encrypted German messages. Polish mathematician Marian Rejewski responded with the first version of the bombe, so the Poles could once again read the Nazi coded nonsense. But then the Germans introduced interchangeable wheels for the machines.

In desperation the Poles sought help from the French and British, but it was too late. When German tanks rumbled across the border into Poland in September 1939, the Allies were unable to understand the German generals' Enigma-encrypted orders. Work at Bletchley Park began.

Code-breakers tried especially hard to crack the naval messages. Enigma operators in the Wehrmacht (German Army), Kriegsmarine and Luftwaffe (German Air Force) began to synchronise the initial settings of their machines every day by breaking up the secret code books with daily keys, which were typically sent off a month at a time. Then each operator should select an individual start setting. And here the Kriegsmarine's requirements for operators were much tougher than for the Luftwaffe and the Wehrmacht.

Naval personnel would choose a code from a manual and run it through the Enigma machine several times and also swap the letters following an ingenious system. The receiver would then undertake the same process backwards before he could decrypt the message himself with the help of that day's key.

The procedure was less complicated in the Wehrmacht and Luftwaffe and, moreover, operators could choose individual start-up options. Often they ended up using the same simple codes again and again – for example, AAA. At the same time Army and Air operators only had five



NAME ALAN TURING

TITLE MATHEMATICIAN AND COMPUTER PIONEER

1912-1954

Genius took his own life in despair

Alan Turing was an eccentric who would often turn up at Bletchley Park in his nightwear under a jacket and with gas mask over his face. But the mathematician's abilities shouldn't ever be under-estimated, and Winston Churchill hailed his efforts as "crucial" to the outcome of the war. Turing never got the public recognition he deserved. After the war he was accused of homosexuality and sentenced to treatment with a female sex hormone. The treatment changed Turing's body and ultimately drove him to suicide.

➤ World-class long distance runner.

➤ Father of the modern computer.



possible wheels to choose from, while the Navy had eight.

All of this enabled the people at Bletchley Park to find a method to figure out the Wehrmacht and Luftwaffe's daily Enigma keys by January 1940, although it often went too slowly to have any practical significance. By April code-crackers could decrypt intercepted messages in a single day – but only those from the Army and Air Force. The Navy's words were still nonsense.

Throughout 1940 and the first months of 1941, code-crackers at Bletchley Park were constantly behind the Germans. The breakthrough in January 1940 had been based on the Germans' habit of repeating today's keys in their messages, and when the procedure was abolished, they could no longer decode either the Air Force or the Army posts.

Only in August could British code experts at Bletchley Park, with an improved bombe, again listen in on messages to the German ground troops and pilots. They were just in time to intercept the Germans during the Battle of Britain's intense dogfights, with decoding times down to one hour.

KING PRAISED SUBMARINE BREAKTHROUGH

However, it was clear that it would require a far more tangible breakthrough to crack the Navy's codes: the British simply had to get hold of the German codebooks and instruction



The many small gears made the Enigma machine a complex creature to crack.

manuals. And it happened first with the boardings of *Munich* and *U-110* in May 1941. With the codebooks from *Munich* Bletchley Park could for the first time decode the Navy's messages immediately.

Royal Navy commander, Sir Dudley Pound, was certain of its importance. "Hearty congratulations", he wrote to the head of the convoy, which had intercepted the machine

on *U-110*, with the cryptic addition: "The petals of your flower are of rare beauty".

The battle between the German Navy's encryption experts and the people at Bletchley Park and their minions in the intelligence service and the Royal Navy continued on.

Only through repeated hijacking of codebooks and instruction manuals for the Enigma machines were the British able to continue preventing the feared U-boats from striking vital convoys of supplies from the US to Great Britain.

By February 1942 the German Navy had equipped its submarines with an improved version of the Enigma machine, which put the code-crackers at Bletchley Park in total information darkness for 10 months. It was only thanks to a new submarine hijacking in the Mediterranean in October 1942 followed by months of work around the clock at Bletchley Park that the Allies came on par with the Germans again.

From August 1943 until the end of the war in 1945 the British were able to decode Enigma messages from the Luftwaffe, Wehrmacht and Kriegsmarine. The Germans never found out that their ingenious code system had been broken for the final time.

PERSPECTIVE

The war was shortened

The British code-breakers enabled the Allies to get a jump on the Germans in several decisive battles during the war.

The British knowledge of secret codes was particularly crucial during the war at sea – the Allies beat Benito Mussolini's Italian navy off the coast of Greece in 1941, and they had a decisive lead in the fight against U-boats in the Atlantic. The invasion of Normandy was also accelerated, and many historians today estimate that by breaking German codes the war was shortened by two years.

Citizens of Brussels rejoiced in liberation, which probably came two years earlier than anticipated thanks to the efforts of the teams at Bletchley Park in Buckinghamshire.



*The Bismarck was the heaviest
European battleship during World War
II and possessed daunting firepower
from her eight 38-centimetre guns.*

1941

27TH MAY

BISMARCK IS HUNTED IN THE ATLANTIC

Confidence is high aboard the *Bismarck* as the ship sets sail in 1941. But exercises before departure revealed one weakness of the otherwise almost invulnerable battleship:

Bismarck's huge size makes her propellers impossible to control if the rudder is damaged. The captain is aware of the problems, but nonetheless complies with the order to set sail.



THE STAGE IS SET



The brand-new battleship *Bismarck* is one of the most powerful when she sets sail on her first mission in the spring of 1941. *Bismarck* could pose a severe threat to Allied convoys if the ship is allowed to head off into the Atlantic. The British will do anything to check the pride of the German Navy before it's too late.



THE BATTLESHIP *BISMARCK* BASKED in the May sun like a silver-grey dream from the Arabian Nights as she lay in the Norwegian Grimstad Fjord. On deck, 30-year-old baron and naval officer Burkard von Müllenheim-Rechberg, who had already served on two ships during the war, was one of the carefully selected crew members to sail on Germany's pride. Müllenheim-Rechberg was convinced that *Bismarck* could handle any mission.

The two German Messerschmitt fighters that circled the ship as a defence against British bombers increased his feelings of security. Throughout the day *Bismarck* had been visited by military personnel admiring the Third Reich's naval engineering. The ship's first gunnery officer, 37-year-old Adalbert Schneider, proudly showed his brother around the ship: "the *Bismarck* is stronger than anything faster and faster than anything stronger", he said confidently.

The calendar showed 21st May, 1941, and it was two days after *Bismarck*'s mission, Operation Rheinübung, had begun.

150,000

horsepower was provided by *Bismarck*'s 12 boilers corresponding to around 100 good-sized fuel tanks. Power was driven by three large-bladed propellers.

The aim was to escape unseen into the Atlantic along with the heavy cruiser *Prinz Eugen* and to sink as many of Britain's vital supply convoys as possible. Though the convoys were being escorted by British warships, they would be defenceless against *Bismarck*'s superior firepower.

The day's idyll was only broken when an air siren sounded at 13.00. Anti-aircraft guns were on high alert, but it appeared to be a false alarm – and the crew breathed a sigh of relief.

By the time *Bismarck*'s air sirens went off, a British pilot was already on his way home with pictures of *Bismarck* and *Prinz Eugen*. The images were confirmed by Swedish intelligence: *Bismarck* had left port in occupied Poland. The cruisers *Norfolk* and *Suffolk* immediately went off to patrol the Denmark Strait between Iceland and Greenland, and three cruisers guarded the waters between Iceland and the Faroe Islands. The mighty battlecruiser *Hood*; the battleship *Prince of Wales* and six destroyers patrolled south of Iceland.

The following evening a reconnaissance plane returned home with important news: the Germans had left Norway. The warship *King George V* sailed from her naval base in Scotland, accompanied by the aircraft carrier *Victorious*, four cruisers and three destroyers and the old battlecruiser *Repulse*. The hunt had begun.

BRITONS HID IN THE FOG

The following day, on 23rd May, *Bismarck* and *Prinz Eugen* headed off at high speed down the Denmark Strait. On the starboard side the blue-white pockets of pack ice glistened and



There was a feeling among the 100 officers and around 2,000 sailors aboard the *Bismarck* that she was almost invincible.

behind the mighty Greenland glaciers reached up toward the sky. To port light snow and heavy fog masked the horizon towards Iceland.

The scenery was so beautiful that Müllenheim-Rechberg found it hard to break away, but the idyll was broken abruptly at 18.11, when the alarm sounded: *Bismarck*'s hydrophones had intercepted the sound of a ship on the port side. At 19.22 the bells rang again as the silhouette of three stacks and a huge superstructure emerged from the fog: a British warship.

The ship disappeared as suddenly as it appeared, but at 20.30 the alarm sounded again. *Bismarck*'s radar had detected a British cruiser ahead. The Germans' guns flashed and roared as they fired, but the British laid down a smokescreen and disappeared quickly into fog again.

The tremors from the huge guns caused one of *Bismarck*'s radars to set off. The ship settled in behind *Prinz Eugen*, and Müllenheim-Rechberg watched the two enemy ships behind from his location at the back of the central gunnery. He experienced first-hand how difficult it was to shake their pursuers as *Bismarck* shot through the bright arctic night at almost 30 knots. She constantly changed course seeking shelter in any available fog bank, but the British were equipped with highly efficient radar. The hunt went on all night, and aboard the *Bismarck* concerns were aroused about which other ships may have been alerted.

BATTLESHIPS ATTACKED LIKE ANGRY BULLS

At 05.45 the answer came: first two columns of smoke up lit up on the horizon to the south-east, then two masts. Through his rangefinder binoculars Müllenheim-Rechberg could soon see the silhouette of two large warships that were thundering towards *Bismarck*. At 05.53 the distance was down to 20 kilometres, and suddenly he saw a gigantic flash of light from the ships. The enemy had opened fire.

Britain's largest warship, *HMS Hood*, was heading directly towards *Bismarck*, with salvoes bulging from her guns.

Bismarck's first volley exploded with a bang, which could be heard as far as Reykjavik, several hundred kilometres away. With amazing speed the Germans fired at *Hood*. The men in the four gun turrets sent off one shell after another, and the mighty *Bismarck* shook. Müllenheim-Rechberg should have been focussing as lookout for a possible torpedo attack from the two British cruisers behind, but he had a hard time taking his eyes off the battle with the *Hood*.

BRITISH PRIDE SANK BENEATH THE WAVES

Suddenly First Gunnery Officer Schneider's quiet voice announced: "The enemy is burning".

The telephone system was filled with excited voices, and it had become too much for Müllenheim-Rechberg: he handed

1894-1941
1889-1941

NAME ERNST LINDEMANN

TITLE CAPTAIN

Chief was popular among sailors

Ernst Lindemann had worked his way up through the German naval ranks and was well liked among his crew because of his friendly and caring manner. The captain preferred to refer to *Bismarck* as 'he' rather than 'she', as he thought the ship was too powerful to be female.

- > Joined the fleet in 1913.
- > Made captain of *Bismarck* in 1940.

NAME GÜNTHER LÜTJENS

TITLE ADMIRAL

Reserved boss refused to "heil"

The tight-lipped Lütjens commanded *Bismarck* and *Prinz Eugen*'s mission. His appointment led to friction with Lindemann. Lütjens was at odds with the Nazis as he refused to give the Nazi salute when Hitler was aboard the *Bismarck* before her departure.

- > Decorated in World War I.
- > Made full admiral in 1940.

over surveillance to a subordinate and rushed over to the port director facing towards *Hood*. While he searched for the British battlecruiser he heard the cry, "She is blowing up!" The men aboard the *Bismarck* looked at each other in disbelief. When Müllenheim-Rechberg finally trained his binoculars on the *Hood*, he could only see a column of black smoke reaching to the sky. Moving down to the foot of the column he spied something incredible: *Hood*'s bow pointing upwards at a sharp angle. The ship had split in two!

In just six minutes the *Bismarck* had done for Britain's proudest warship. Once the shock had subsided, cheers broke out among the crew. The men excitedly slapped each other on the back. What a ship they had! They'd almost forgotten that the battle was not yet over. *Bismarck* could now tackle the battleship *Prince of Wales*, which *Prinz Eugen* had been firing on constantly. But before long Admiral Lütjens gave orders to stop firing – to the crew's great disappointment. *Prince of Wales* was allowed to sail away wounded. Only three

Bismarck fired her powerful guns at the *Hood*. The photo was taken from the *Prinz Eugen* in daylight. The dark tones are due to the exposure.

Hungry pack hunted Bismarck

The German battleship was shadowed by destroyers and monitored by aircraft. Despite her fast speed, *Bismarck* never managed to completely escape the Royal Navy.

GREENLAND

3 British cruisers discover Germans

■ **23rd May:** after leaving Norway the two ships try to escape into the Atlantic Ocean through the Denmark Strait between Iceland and Greenland. On the way they're discovered by two British cruisers – *Norfolk* and *Suffolk* – that shadowed the Germans from a safe distance.

4 Hood is sunk in the Battle of Iceland

24th May: in a short but violent battle the great British battleship *Hood* is sunk by the *Bismarck*. All but three sailors aboard her die.

5 Prinz Eugen escapes undamaged

24th May: *Bismarck* and *Prince of Wales* shoot at each other from a distance. In the heat of battle the undamaged *Prinz Eugen* manages to get away. The cruiser later reaches Brest in France.

6 American seaplane discovers Bismarck

26th May: an American pilot spots *Bismarck*, but most British ships are too far away to attack. The only hope of slowing *Bismarck*'s flight comes from aircraft carrier *Ark Royal* on her way from the south.

7 British battleships deliver the death blow

27th May: planes from *Ark Royal* damage the *Bismarck*'s rudder, so the ship can no longer manoeuvre, but only sail in a circle. *Bismarck* is thus easy prey for the two battleships *King George V* and *Rodney*.

DENMARK STRAIT

ICELAND

Scapa Flow in the Orkney Islands was one of several bases that British naval vessels operated from.

FAROE ISLANDS

SCAPA FLOW

SCOTLAND

ATLANTIC OCEAN

BREST



2 Ships dock in Norwegian fjord

21st May: at noon *Bismarck* and *Prinz Eugen* anchor in Grimstad Fjord near Bergen after passing through Danish waters. Without knowing it, the two ships have been spotted by the Swedish Air Force, which sends a message to the British. A British reconnaissance aircraft manages to take photos from a great height of the ships in the fjord.



Sextants were used to navigate in both British and German navies.



1 *Bismarck* sets sail

19th May: shortly after midnight the German battleship leaves the naval base in Gotenhafen. Later *Bismarck* joins company with the cruiser *Prinz Eugen*. Together the two ships plan to break out into the Atlantic and attack Allied convoys.

seamen out of *Hood*'s 1,418-man crew survived. The loss of a national symbol was a shock to the British.

Churchill's orders came quickly and were brusque and uncompromising: "I don't care how you do it, you must sink the *Bismarck*". Anything that could sail and fire went in: four battleships, two aircraft carriers, two battle cruisers, three heavy cruisers, 10 light cruisers and 21 destroyers.

Bismarck had already been hit three times, however. One of the shells bounced off, but another pierced the ship's bow and left a half-metre-wide exit hole. The third shell made a hole amidships, and *Bismarck* now left a trace of oil behind. 2,000 tonnes of seawater had entered causing the ship to list slightly and the starboard side and bow to lay deep. The holes must be stopped with mats to prevent more water from entering.

PILOTS' DEATH-DEFYING ATTACK

On 24th May at 19.00 *Bismarck*'s speakers resounded with an ominous message that sent anti-aircraft stations to high alert: an aircraft carrier was nearby. *Bismarck* was alone with her three pursuers, as *Prinz Eugen* had managed to escape the British. The plan was for *Prinz Eugen*, which was undamaged, to continue Operation Rheinübung and inflict damage on British convoys while *Bismarck* headed to a French dock.

At 22.30 – the North Atlantic spring evening was still light as day – *Bismarck* sounded her air alarm. Müllenheim-Rechberg looked through his binoculars as nine small Swordfish biplane torpedo bombers approached circuitously from in front of them.

In an instant *Bismarck* transformed into a fire-breathing steel monster. Anti-aircraft guns thundered endlessly, and in-between men fired the big guns with 38-centimetre shells at the sea's surface. Huge columns of water were thrown up in the air right in front of the British aircraft, but the pilots continued steadily – "as if they did not expect ever again to see a carrier", thought Müllenheim-Rechberg. Each of them reached within 400-500 metres of *Bismarck* before releasing their payloads. One by one the torpedoes dropped into the water. *Bismarck* increased her speed to 27 knots and zigzagged hard to avoid them. The ship's movement made it virtually impossible for anti-aircraft gunners to hit the British aircraft.

Suddenly Müllenheim-Rechberg heard a sharp sound penetrate the hullabaloo from *Bismarck*'s own guns – an explosion! A torpedo hit. A worried-looking

Müllenheim-Rechberg checked his instruments showing speed and rudder position. But both the engines and rudders were unharmed.

The torpedo had hit midship on the starboard side – where *Bismarck*'s armour was strongest. The explosion did no harm, but hurled an officer to the ground killing him instantly. It was the first death aboard the *Bismarck*. Six others would be treated for fractures.

As the Swordfish vanished over the horizon, the news of the death within the crew sank in. Suddenly it dawned on them how vulnerable they really were, and how close the enemy was. They had sunk *Hood*, but the victory only spurred the British to bring everything they could to bear against *Bismarck*.

SEAPLANE REVEALED POSITION

At 11.30 on 26th May, the 2,200+ men aboard the *Bismarck* had been alone on the Atlantic Ocean for more than 30 hours. As the hours passed hope that they'd manage to escape their British pursuers grew.

Müllenheim-Rechberg was aware, however, that danger was still imminent – but they had a chance as long as *Bismarck*

retained her manoeuvrability. Suddenly it happened: a Catalina seaplane with a wingspan of more than 30 metres emerged from between the clouds.

"Aircraft to port!" "Aircraft alarm!"

Bismarck's anti-aircraft guns fired at the seaplane, but it escaped – apparently unharmed. Now the crew was no longer in doubt: the British knew *Bismarck*'s position. Müllenheim-Rechberg took solace in the fact that the Catalina probably came alone and from afar, and that it would be a long time before the British could bring together enough battleships to threaten *Bismarck*'s journey to the dock in France.

TORPEDOES WERE FATEFUL

Müllenheim-Rechberg's hope soon faded. Only a half hour later a new aircraft emerged – a plane with landing gear. An Aircraft carrier was nearby. It was a serious dampener for crew morale.

The small biplane circled around just outside the scope of the anti-aircraft guns. In the afternoon it was joined by another Catalina seaplane, and that evening the British cruiser *Sheffield* also showed up.

But after neither ships nor aircraft reappeared, the Germans slowly regained hope. Rumours abounded on the ship: the enemy's main strength was more than 100 miles behind – perhaps the aircraft carrier was also too far away to attack. Some of the men began to look closely at charts and figured out that *Bismarck* might be within protective range of the Luftwaffe by the very next morning.

Thanks to a misinterpreted British bearing, the *Bismarck* had gained decisive miles on her pursuers. Many of the British ships were forced to abandon the chase due to a lack of fuel, and the chance of ships catching *Bismarck* who could compete with her huge guns was practically zero. The only danger came from the south and the approaching aircraft carrier, *HMS Ark Royal*. Her Swordfish torpedoes might slow *Bismarck* or cripple her manoeuvrability, allowing other British ships to arrive and deliver the German battleship her death knell.

"Aircraft alarm" On deck the crew watched as 16 biplanes flew past high above *Bismarck*. The whole ship was on alert when shortly after the Swordfish emerged again to swoop down low to the sea. *Bismarck*'s guns generated a fiery inferno, but through the smoke Müllenheim-Rechberg could see how the pilots continued undaunted against their mighty opponent. Meanwhile they dropped one torpedo after another into the sea in the direction of *Bismarck*. The entire ship lurched violently while Captain Lindemann manoeuvred to avoid torpedoes.

A paralysed Müllenheim-Rechberg sat in his steel cage and listened for torpedo blasts between the hullabaloo from *Bismarck*'s guns. Two sharp explosions sounded in rapid succession – but at the front where the armour was strongest.

Moments later a third crack could be heard. A British pilot had hit *Bismarck* aft. As the ship turned to avoid the torpedo, it hit the exact spot where *Bismarck* was most vulnerable: the helm – a lucky blow for the

Bismarck was a floating city

Sailors aboard the *Bismarck* enjoyed a wide range of facilities, including a steam laundry and a modern dental clinic.

When *Bismarck* set sail on her first – and only – mission, the ship brought enough supplies to feed the crew for several months. The refrigeration area below deck had room for 500 slaughtered pigs and 300 entire cows, and the meat was brought up to the big galleys using an ingenious hoist system. The crew of the *Bismarck* did not need to be put up with toothache – the ship had its own dental clinic.

Ship's dentist Rolf Hinrichsen shows his equipment for the photographer. It's not known if anyone actually went to the dentist.





A sailor on Prinz Eugen signalled to Bismarck with flags to maintain radio silence.

Bismarck

Length	251 metres
Width	36 metres
Weight	50,955 tonnes
Top speed	31 knots (57 km/h)
Main armaments	8 x 38-cm guns 12 x 15-cm guns
Crew	2,212

SEA MONSTER WAS IMMENSE
When *Bismarck* set sail on her maiden voyage, the ship was the most formidable in the world: well-armed, heavily armoured and yet extremely fast. Her range was also huge – around 16,000 kilometres, equivalent to almost half way around the Earth.

HMS Hood

Length	262 metres
Width	32 metres
Weight	48,360 tonnes
Top speed	29 knots (53 km/h)
Main armaments	8 x 38-cm guns 12 x 14-cm guns
Crew	1,418

PROUD SHIP HAD ONE WEAK POINT
Hood was a symbol of the British Empire's power over the seas in the interwar period. But a weak point was identified, as she was not solidly armoured. The weight savings afforded good speed, but also meant that the ship was vulnerable to shells that landed vertically.

British. Müllenheim-Rechberg's heart sank. He looked instinctively at the rudder position indicator. It was frozen at 12 degrees starboard.

DAMAGE WAS IMPOSSIBLE TO REPAIR

First Gunnery Officer Schneider's voice could be heard over the communication system, and *Bismarck* released a round against *Sheffield* that had approached during the battle with the *Swordfish*. She put up a smokescreen and hurried out of range again. The propeller's position indicator had still not moved: *Bismarck* had lost the ability to steer. Lindemann fired a volley of orders to control the propellers, but to no avail.

Slowly, *Bismarck* was forced into the wind in an involuntary semicircle. A team of shipwrights were sent down to try to access the water-filled engine and repair the rudder. But the men quickly had to give up: the space was full with water.

The British received reports that *Bismarck* was now sailing away from her former course towards France. The German ship must be seriously damaged. The British seized the opportunity. *King George V* and *Rodney* sailed north-west of *Bismarck*, so the two ships approached under cover of darkness and could attack as the sun rose.

During the night of 27th May a strong north-west wind developed into a storm, and the waves rose to 15 metres high around *Bismarck*. The crew's last-ditch attempt to repair the damaged rudder was abandoned around midnight. The wind and the high waves relentlessly forced the ship off course.

Rain lashed down over the ship, and somewhere behind the storm a group of British destroyers readied themselves. For a

long time, they approached to fire their torpedoes, but *Bismarck* succeeded in scaring them away with her powerful guns. At night, Vice Admiral Lütjens sent a message to fleet command. He knew that the battle was lost, but he also knew what was expected of him. Surrender was not an option. Parts

of the communication between *Bismarck* and naval command were read out over the speakers onboard:

"Fleet Chief to the Reich leader, Adolf Hitler: We will fight to the last in belief in you, my Führer, and in unshakeable confidence in Germany's victory".

And the answer came shortly after: "Adolf Hitler to crew of *Bismarck*: 'All of Germany is with you. What can be done, will be done. Your performance of duty will strengthen our people in the struggle for its destiny'".

For the crew, it sounded like a death sentence rather than a rallying cry. *Bismarck* was promised assistance from German tugs and bombers, but Müllenheim-Rechberg knew they couldn't arrive in time. When the ship's commander gave the crew permission to take everything from the ship's stores, he saw the signs: Lütjens and Lindemann knew that the end was near. But time passed without the British appearing. As the clock

John Tovey,
British admiral, praised *Bismarck* and her crew for having managed to strike a blow in almost impossible circumstances as well as fighting to the last.



Only 115 sailors from the Bismarck's crew of over 2,200 men were saved before British ships fled for fear of German U-boat reprisals.

ticked around to 08.00, Müllenheim-Rechberg decided to make a last round of the ship. In the wardroom men sat silently around the table, while the breakfast porridge slopped around as the ship rolled.

"Today my wife will become a widow, but she doesn't know it", said one of the officers.

Müllenheim-Rechberg left the depressing company to go up on the bridge. Exhausted men were all around, and in the middle of it all was Captain Lindemann – wearing an open life jacket. Müllenheim-Rechberg saluted, but the usually jovial captain did not even glance back. He stood petrified on the bridge of his ship.

On the way back to his post Müllenheim-Rechberg met Admiral Lütjens and saluted. Lütjens returned the greeting, but with no conviction.

Müllenheim-Rechberg looked at his watch. The time had passed 08.30 – where were the Brits?

EXECUTIONERS FINALLY EMERGED

The alarm bells rang. With some urgency Müllenheim-Rechberg ran to the aft gunner's station and listened to the telephone system.

"Two battleships port bow", it said. He turned his rangefinder and saw the unmistakable silhouettes of *King George V* and *Rodney*, about 24 kilometres away, heading for the *Bismarck*: expressionless as if on the way to an execution.

At 08.47 the first salvos were fired from the British ships, and minutes later *Bismarck* returned fire. But the British were firing rapidly and shells rained down on the ship.

After just 20 minutes *Bismarck's* two forward turrets were shot to pieces, but those

in the bow remained intact. Müllenheim-Rechberg was ordered to take control of the two aft turrets. The defence was now in his hands. Quickly he scrutinised the horizon for targets with his binoculars. Around 11 kilometres away, he saw *King George V*.

"The target is the battleship at 250 [degrees]", he reported to the calculation room beneath the turrets. "Ready" was the answer. "One salvo", he ordered. The shells whistled through the air towards the right side of the British battleship. Another salvo further to the left and then another. The shells struck in the water directly in front of *King George V*. The direction had been found; only the distance was missing.

British shells still rained down over *Bismarck*, and suddenly Müllenheim-Rechberg's rangefinder shook so violently that the eyepiece slapped him hard in the face. He was looking into it again, but there was nothing to see. Just as he was about to find his range, the rangefinder had broken. A British shell had ripped through all the instruments in the aft fire control centre so that it was reduced to a useless steel box. Müllenheim-Rechberg had no choice but to let the men in the turrets fire as best they could. Outside there was chaos.



Bismarck was named after the chancellor who united Germany under one rule in 1871.

DYING MEN LAY ABOUT

The constant British shell fire transformed *Bismarck* into a blazing wreck spreading death and mutilation. The lifeboats had long been shot to pieces. In despair some of the men jumped in the water, while others ran around hopelessly on deck. The ship's doctors dashed around among the wounded trying to help them as much as possible.

Deep down in the starboard engine room artificer Wilhelm Generotzky had heard how

the thunder from *Bismarck*'s guns was becoming less and less, while the rattling sound of shrapnel penetrated from above. "It's over!" shouted his companion, white in the face. The ship listed more and more towards port, and soon the surviving officers gave the order to "Scuttle ship" and escape.

Generotzky climbed from the depths through a shaft as one of the last in a group of 40 men. When he reached the ladder's top rung and could place his hands on deck, they were in pools of blood. On the shattered deck were piles of dead and dying men three or four layers deep.

In the officers' mess, men had smashed the necks of schnapps bottles and swallowed the contents even as blood ran from the cuts they made from the glass's sharp edges. Some had fallen to the floor, senseless.

At 10.21 the sound of murderous shellfire finally stopped.

Müllenheim-Rechberg waited a little longer before he ordered the men who had sought refuge in his fire control centre to leave the ship. He was the last to leave his post.

Outside he met a gruesome sight: Whitish smoke had started to emerge from fires below deck, hiding most of the bow. The tower mast and foremast protruded above the smoke and on the bridge men were unharmed. The chimney had a hole in it, and the entire deck was floating with twisted metal. Where once there were guns and instruments; there was nothing. Müllenheim-Rechberg struggled over metal and holes in the deck to the starboard side of the stern.

For a long time, he and a small group of men waited for ships that could pick them up – but the sea was empty. Finally, there was nothing for it but to jump in before *Bismarck* sank and sucked them with her into the depths.

Things became worse. Around Generotzky officers shot themselves; while others jumped into the water.

"She's sinking!" someone shouted, and at that moment the deck almost disappeared under Generotzky's feet. The entire starboard side rose into the air, and then he jumped into the water too. When he finally emerged from the depths 100 metres from the sinking giant, he saw the whole ship lying keel up. Then in a puff she disappeared under the waves.

CAPTAIN WENT DOWN WITH HIS SHIP

Only 15 of the men in *Bismarck* survived. Among them was Müllenheim-Rechberg and Wilhelm Generotzky, both of whom were picked up by British ships. First Gunnery Officer Adalbert Schneider died a few minutes into the fighting. Later Müllenheim-Rechberg wrote the book *Battleship Bismarck: A Survivor's Story* about his experience.

The cruiser *Prinz Eugen* continued her journey, but after a few days had to abandon the mission because of engine trouble. The ship managed to reach Brest in German-occupied France safely on 1st June, 1941.

Vice Admiral Lütjens was killed by a British shell that hit *Bismarck*'s bridge, while Captain Lindemann went down with his ship. His men saw him standing in the bow to the last. When *Bismarck* keeled, he crawled to the side of the ship and saluted until he disappeared into the depths.

Germans went under the seas

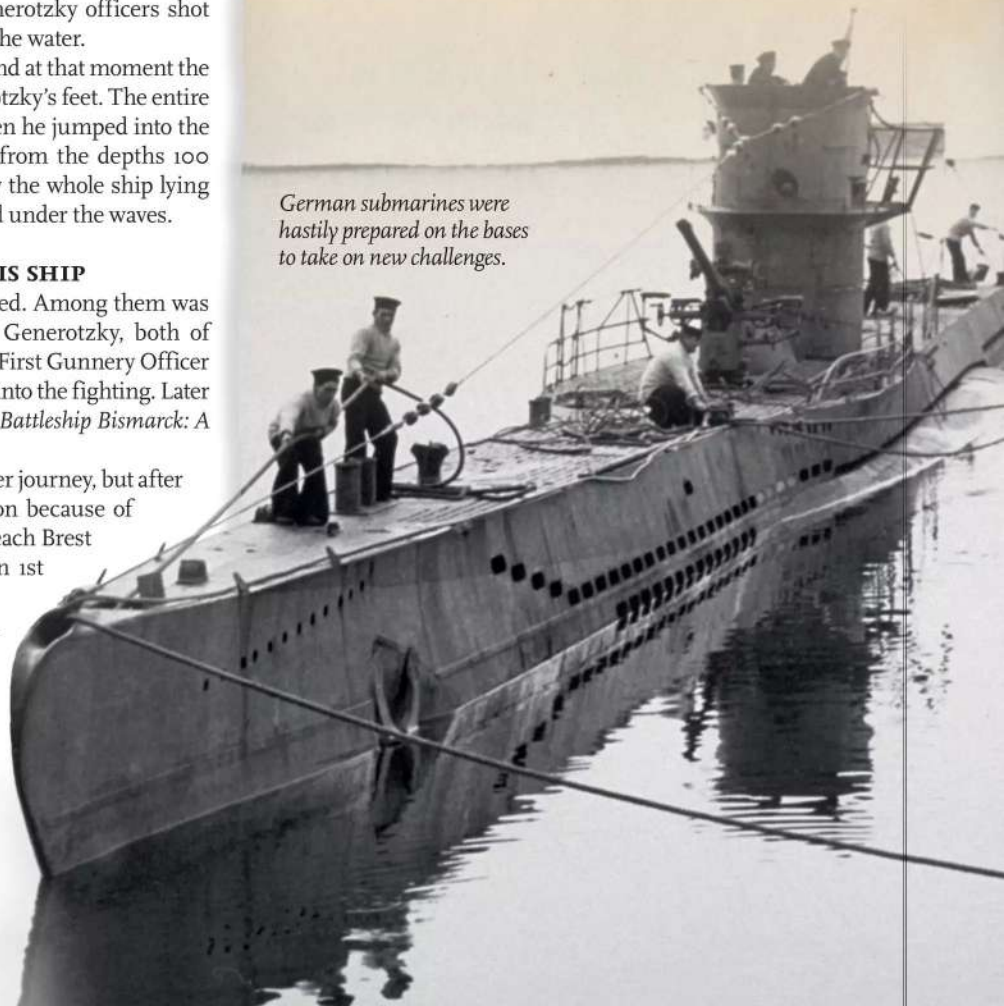
After *Bismarck*'s demise, the Germans had no chance of dominating the war on the sea's surface. Instead, the Axis stepped up the submarine war.

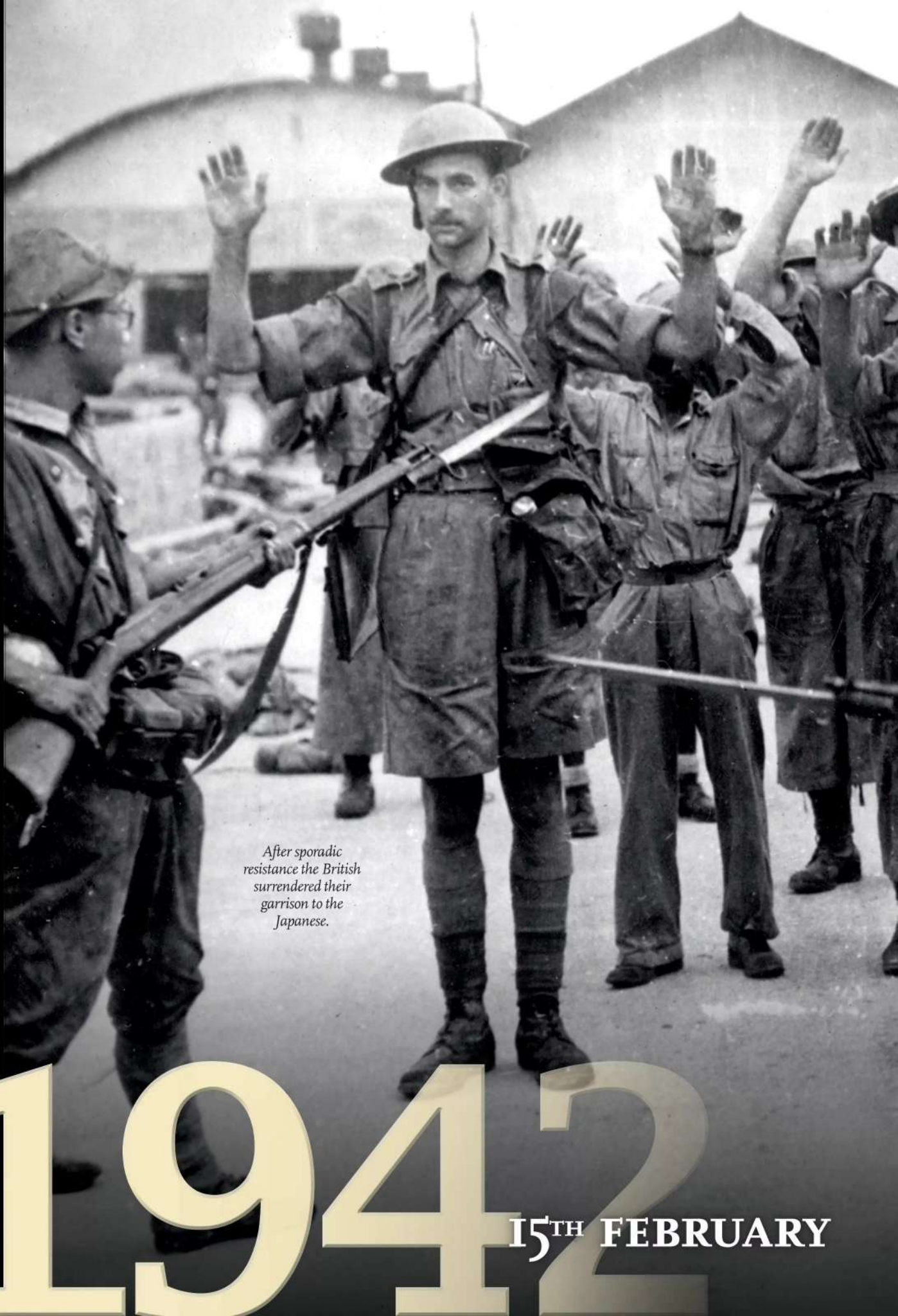
As an island state and naval power Britain's aim was to dominate the sea – it was the only way she could guard against a German invasion and protect vital convoys of supplies and soldiers, especially from the United States and Canada.

After the sinking of the *Bismarck*, it was difficult for the Germans and their allies to threaten the UK on the surface of the seas. Admittedly *Prinz Eugen* was still operational, and the Germans had a few other large ships, including *Bismarck*'s sister ship, the battleship *Tirpitz*. But thanks to persistent attacks on naval bases – in particular bombing raids by RAF planes and torpedo attacks by British submarines, surface ships were forced to spend a lot of time in dock for repairs.

German naval leaders were aware of the situation and chose instead to focus their efforts on a large submarine fleet. Shortly after the outbreak of war the Germans had already notched up successful submarine expeditions, and as the production of U-boats took off, vessels were gathered into so-called "wolf packs" that attacked Allied shipping across the Atlantic.

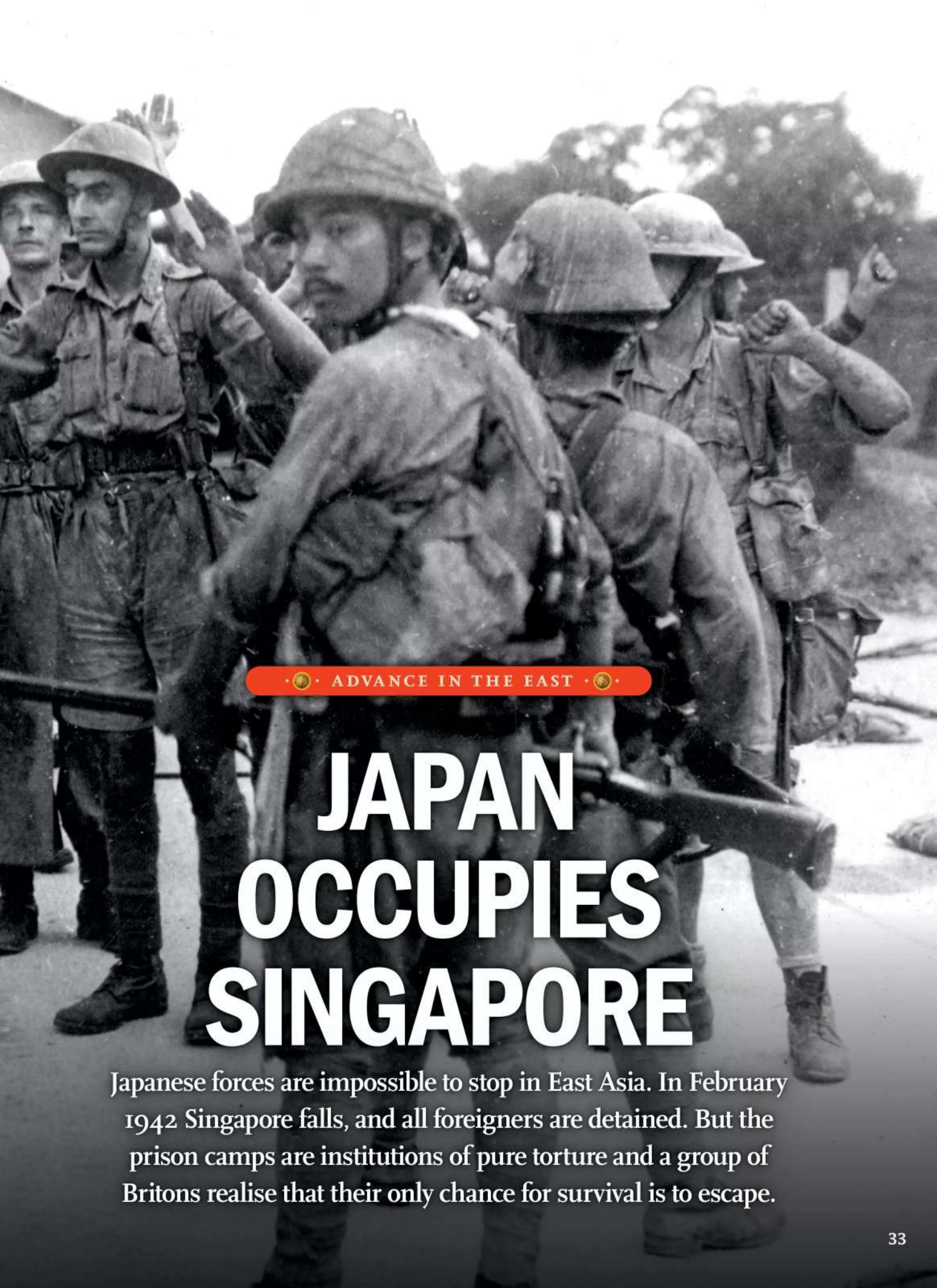
German submarines were hastily prepared on the bases to take on new challenges.





*After sporadic
resistance the British
surrendered their
garrison to the
Japanese.*

1942 15TH FEBRUARY



• • ADVANCE IN THE EAST • •

JAPAN OCCUPIES SINGAPORE

Japanese forces are impossible to stop in East Asia. In February 1942 Singapore falls, and all foreigners are detained. But the prison camps are institutions of pure torture and a group of Britons realise that their only chance for survival is to escape.

THE STAGE IS SET



While Germany and the Allies fight in Europe, the Japanese Empire tries to realise its superpower dreams in Asia. Bit by bit Japan occupies South-east Asia, and in February 1942 it's the turn of the British colony of Singapore. The British did not think the Japanese would get this far, and are ill-prepared.



THE FIGHTER PLANE DIVED DOWN TOWARDS THE PIER, fire roaring from its forward machine guns, and a few wooden boxes at the port burst into flame. The flames' crackling rose into the air extending toward the dark sky before the plane disappeared behind a black and white warehouse.

The smoke hung heavy over the docks, but Charles McCormac only had eyes for the large grey ship that was heading out of the harbour. Somewhere inside *Wakefield's* sturdy hull was his wife, Pat. The Japanese were coming, and he knew that he would be captured, but Pat and their unborn child would be safe. Only that mattered, thought Charles, as the ship set

course to the north-west. He ran back to the British military base, which for almost a year had been the couple's home. Here



The Japanese introduced a separate currency locally called "banana money".

he smashed everything that could be of use to the Japanese. We've had it good here, thought Charles: private golf course, swimming pool and private taxis. He and Pat had enjoyed the city with its bustling streets and vibrant nightlife. The war in Europe was far away, and most figured Singapore to be impregnable: right up until the end of January 1942, when Japanese troops were only about 30 kilometres north of the colony. A few days later the last women and children had been evacuated. Among them was Pat.

Now everywhere was in chaos. The roads from Singapore were crowded with trucks and vehicles containing soldiers and civilians fleeing the Japanese. Food and water were difficult to obtain. Charles wandered aimlessly, until he met some men who were building a road block of stone and rubble. A small gentleman in white shorts and a blue silk shirt was crouching, eating a sandwich. The man introduced himself as "Don". He was Australian, about 40 years old and had thin, reddish-blond hair. Don broke his sandwich in half



NAME

ARTHUR E PERCIVAL

TITLE

LIEUTENANT

Unconditional surrender

Arthur Percival came to Singapore as commander in 1941 and quickly discovered that its defences were inadequate and soldiers inexperienced. Percival immediately began to train his troops, yet could do little against the fast and battle-ready Japanese forces that attacked in early 1942.

After the defeat Percival was briefly imprisoned in Changi prison in Singapore before he was moved to a prison camp for senior officers where conditions were equally bad. When the Japanese surrendered, Percival was chosen to accept the Japanese surrender in the Philippines. Here he stood face to face with the Japanese General Yamashita, whom he'd surrendered to in Singapore. But Percival refused to shake hands in protest at the treatment of prisoners of war.

- Fought in World War I, in Ireland and the Russian Revolution.
- Retired from the army in 1946, but continued to hold honorary posts.

and handed one to Charles. Charles joined the group. At night they slept under the trees beside the road, listening to the muffled rumble of bombs falling over Singapore a few kilometres away.

One evening, everything suddenly became silent: no rumbling aircraft, no explosions. "Either the Japs are wiped out or we're packed in", said one of the men. The day after Don and Charles ventured out of town to find out what was going on. To prevent Japanese soldiers sighting the two men they walked between rubber trees through an area of jungle. On a side road they saw about 20 Japanese soldiers. With them were an officer and a European-looking civilian. "What the hell's that civvy doing?" whispered Charles. "Let's find out", Don replied as he jumped out into the road. Seconds later a hail of bullets sent them back into the woods again. Instinctively Charles squeezed the trigger of his Tommy gun. Three Japanese fell on the dusty road. "Chuck it, you idiot. We haven't got a chance", cried Don. He threw down his gun and went forward with his hands raised above his head. The Japanese formed a circle around them. A hard kick up the backside sent Charles to the ground. "This bastard says there's no point in fighting. We've surrendered", explained Don with a glance at the civilian.

Tightly guarded they were marched towards the city centre. The square's beautiful buildings lit up white against the smoky sky. The prisoners were being herded onto the pavement in front of a bank, where they spent the night without getting either food or water.

The next day, after a few hours of walking, they arrived at a camp consisting of filthy palm huts surrounded by barbed wire. The camp was filled with hungry and thirsty prisoners. Although he had always known that it would end like this, it really was over now for Charles. He was a prisoner of war.

"WOULD YOU LIKE TO MEET YOUR WIFE?"

Charles and Don joined a work team that would be sent to Singapore's docks to clean up the rubble. One day, people lined up so that they could consider the body of a pregnant Chinese woman. Japanese soldiers had cut her stomach open with a sharp bamboo stake, and behind the dried flesh the men could clearly see the foetal skull and bones. The officers let them stay for 20 minutes. Some vomited, and one fainted.

After a few weeks, Charles was picked up for questioning. Before he went into the interrogation room, the guard hit him with the butt of his rifle and sent him sprawling into a waiting Japanese officer. The man pushed a picture on to the desk. It showed him and Pat at a club in Singapore. "Would you like to meet your wife?" asked the officer. Charles' heart pounded. "I must tell you that *Wakefield* was sunk. There were few survivors. If your wife is among them, I will take you to her, but you must answer my questions first".

Had they got Pat? Or was it a trick? Charles was grabbed hard from behind and another dug his rifle butt in Charles' back. The officer's sword gleamed in the air. Charles instinctively threw his head to the side, but the sword still jabbed in front of him and he felt a sharp pain in his eye. Blood ran down over his face, into his mouth and onto his shirt. He tried to bend his head, but the sword sliced him



Singapore was in ruins before the Japanese bombers finally retreated.

Singapore's situation shocked Churchill

Coastal batteries, machine guns and a large naval base were not sufficient to protect the British Crown Colony against Japanese attack.

Winston Churchill was shaken. The impossible had just happened: Japan had invaded Singapore. "The worst disaster" and "largest capitulation in British history" was how Churchill described the bitter defeat.

The Crown Colony was protected behind heavy artillery and machine gun positions. To counter the growing Japanese Navy, Britain had also opened a new naval base. The base was built so that in case of attack it could keep the invaders at bay long enough for British ships to arrive from Europe.

However, nothing could stop the Japanese who on 31st January, 1942 stood outside Singapore. On 13th February Lieutenant General Arthur E Percival telegraphed London and asked for permission to surrender. Churchill, who a month earlier had stated that he would not hear of capitulation, accepted reluctantly.



Tomoyuki Yamashita

Arthur E Percival

The Japanese commander, Tomoyuki Yamashita, insisted that the British surrender unconditionally.

again – this time on his mouth. "Now you will answer me", shouted the officer. Charles felt his throat constrict. The words stuck in his throat. The officer hit him in the face, until everything went black.

ESCAPE TEAM TAKES SHAPE

As the weeks passed, Charles became increasingly weakened. Torture and executions were commonplace in detention. Starved and exhausted prisoners fell – many never rose again. Charles' thoughts began to spiral downwards. He had to get away before he lost his life. The best option was Australia, but it was a 3,000-kilometre journey, and

Charles had no idea of how he could get away from Singapore. One day he was approached by one of the guards. Charles did not recognise him immediately, but when he was told that the guard had previously worked at the British military base, he remembered the small, thick-set Filipino Rodriquez. The Filipino had been working for the Japanese to support his family, but his sympathy lay with the Allies. Rodriquez looked nervously around to make sure that the Japanese soldiers did not discover him speaking to Charles:

"One by one you will die," said Rodriquez offering to lend Charles his boat so he could get away. "I ask no payment. The Japanese raped my daughter", he explained and looked away.

Charles decided that his entire working party would have to go – otherwise, the Japanese would impale them on bayonets when the escape attempt was revealed. With six men refusing to go, Charles and Don had to be resourceful. They remembered that the guards did not shout the names, but simply counted the prisoners. This meant that it might be possible to gather up six people willing to escape who could join the team. Those prisoners who didn't want to go could simply swap positions with escapees from another team. As darkness fell, Charles and Don crept between the beams of light from the piercing floodlights that illuminate the camp at night. They went from team to team until they had collected 17 men willing to attempt an escape.

SKULL WAS CRUSHED

Charles had spent two months in the camp and was ready to go. While the others prepared, he passed his arm through the barbed wire fence and cut the cable that supplied the camp arc lamps with overhead power.

The sentry thought that the generator had stalled, and went into the hut, where it was kept. A second later the hut exploded with a bang. Flames rose from the roof. For a moment the men gaped at the scene – there must have been a short circuit. "Now!" cried Don. They ran to the gate and effortlessly tore up the flimsy bamboo fences. The guards swarmed around and start shooting.

Charles crushed a guard's skull with a large piece of wood. He grabbed the guard's bayonet and ran into the jungle.

All the men were exhausted when they reached the agreed meeting place at Rodriquez' house 12 kilometres from the camp. Charles went to the house where Rodriquez cautiously opened the door and explained that the boat was at a dam on the border between Singapore and Malaya. "I can't go with you. I can't risk my family. You'll have to fend for yourselves", said Rodriquez apologetically and thrust Charles a bundle of Japanese dollars, so-called banana money, before hastily shutting the door with a "Good luck".

Two men had been shot during the fight with the



The Singapore Volunteer Corps, established in 1854, contributed to the defence of the city.



The nimble Zero fighters gave the Japanese air superiority.

2 Warships downed aircraft

10th December, 1941: the Royal Navy receives a setback when battleship *Prince of Wales* and battlecruiser *Repulse* are damaged after attacks near Singapore.

1 Thailand goes over to the enemy

8th December, 1941: the Japanese attack Thailand from French Indochina and make landfall in British Malaya following the air attack on Pearl Harbor. The Thai government surrenders after just one day, and later the country makes an alliance with Japan. In Malaya, resistance is also modest.

9 New Guinea will be taken

21st July, 1942: Japanese land troops in Buna in the eastern part of New Guinea, in preparation for the assault on Port Moresby in the south.

8 East India's main island occupied

29th February, 1942: the occupation of Java begins, and soon the entire archipelago is in Japanese hands.

0 200 400 600 800 1000 km

 Japanese-occupied territories



Japanese took control of Asia

The Japanese Empire was planning to subjugate all South-east Asia to provide resources for the mineral-poor country. At first, the war went extremely well for the Japanese, as it easily overwhelmed inferior and poorly defended countries.

3 American bases attacked

10th December, 1941: the Japanese go ashore on the island of Luzon in the Philippines and predominantly attack the American bases in the country.

4 Burma is overrun

20th January, 1942: the Japanese continue from Thailand to Burma, where the British are forced back.

5 Australia is in the firing line

21st January, 1942: more targets in New Guinea are bombed by the Japanese, who occupy the island to establish air bases that can be used to attack the Australian mainland.

6 Singapore falls after a short fight

15th February, 1942: Japanese forces move quickly through the Malayan jungle and occupy the British colony of Singapore with relative ease.

7 Darwin is bombed

19th February, 1942: 242 aircraft bomb Darwin to prevent the Allies from using the city's airports as bases.

British defences outside Singapore were quickly overrun by Japanese forces.

The English-language newspaper in Singapore remained optimistic until the end.



guards. The others continued with Charles in the lead. One let out a joyful outburst when he saw two boats at the dam. But he was quickly hushed – only a few metres ahead a Japanese patrol was marching past. Charles held his breath, but the silence was broken by a loud roar, when the Japanese suddenly opened fire. The escaped prisoners launched a counter-attack. Charles thrust his bayonet into the face of a Japanese soldier. Together they fell on the slippery mud with Charles on top. Eventually the Japanese soldier loosened his grip, and Charles got up and ran, stumbling into one of the boats.

Out on the water the men took a tally. Seven had died in battle. “Only half of us left,” muttered one of the escapees. He hung over the side and splashed desperately with his hand in

the water in an attempt to paddle. To no avail. The small boat would not cross the strait between Singapore and Malaya, so instead they directed the boat into the flow towards the open sea. The men ate a little dried fish and half a rotten fruit, which they found in the boat.

DUTCHMEN CAME TO THE RESCUE

The night was cold, and in the morning all the men's joints were stiff. They basked in the sun's hot rays and had just begun to make a sail from their shirts when they heard a loud hum from the sky. A group of Zeros – Japanese fighter planes – were approaching. Charles could see the fire coming from machine guns at the base of the wings as the planes dived. The men jumped into the water while the Zeros attacked again and again. Finally they disappeared, and Charles climbed into the boat. Don and two other men – Roy and Skinny – followed. The others had gone.

The boat had only taken two hits below the waterline. Charles stopped them with strips of cloth from his shirt. The sun beat relentlessly and slowly sapped the four men's strength. Even Skinny – usually lively and talkative – was quiet. The fourth passenger, Roy was sick. Like so many others, he'd got dysentery in the camp. Without water, he would not last much longer.

The following afternoon they thought they heard the distant hum of an aircraft engine again. First, they thought that the Zeros had returned, but they saw a giant flying boat glide over the waves towards them.

A blond man dressed entirely in white opened the door and took the men onboard before the plane rose from the water with a roar. The plane belonged to the Royal Netherlands Air Force, said a crew member. They breathed a sigh of relief and gratefully gulped down the cold rice dish and the hot coffee served. “What a bloody miracle,” murmured Don to himself, while shovelling down his food.

Charles noticed immediately that something was wrong. The aircraft's crew skirted around all issues, and the mood

Japanese surpassed the Nazis in brutality

Torture, forced labour and arbitrary executions were the norm in Japanese prison camps, among the most inhumane during the war.

Western prisoners of war were far worse off if they fell into Japan's hands than if they were captured by the Germans. The death rate for Westerners in Japanese captivity was 27 percent – around seven times higher than for those in German prison camps.

The high death rate was due to the Japanese tradition of surrender being equal to loss of honour. The Japanese showed contempt for their prisoners by subjecting them to starvation, torture and execution – often by beheading – as a part of everyday life. Other times prisoners marched for days without food or water. Very few guards spoke English, and prisoners were often forced to learn Japanese to understand orders and avoid punishment.

Many prisoners in Japanese camps died of malnutrition, because they suffered from dysentery and could not keep food down.



All foreigners in Singapore were collected and sent to the dreaded Japanese prison camps.



On Sumatra escapees sought refuge in small villages where residents would welcome them. But they couldn't remain long at each place, as the Japanese were hunting for Western refugees and carried out raids in the villages. All were killed if they sheltered Westerners.

was tense. Eventually, one of the Dutch crew said that they were heading towards Sumatra, which had now fallen to the Japanese. The crew had been ordered to evacuate foreigners, and the aircraft would be used to save women and children. Therefore, the Dutch would have to drop Charles and the other escapees in northern Sumatra. "Surely you can take us back?" asked Skinny optimistically. The Dutchman responded negatively. Silence descended on the plane.

The escapees were greeted on the Sumatran beach by an old, toothless man. He invited them home and led them through the jungle to a nearby village. The man obviously held a prominent position in the small community. He let them stay in a cabin and made sure that they had something to eat. Roy continued to worsen. Time and again he had to climb down from the little wooden hut and head towards the edge of the jungle with severe diarrhoea.

Next day the men discussed how to move forward. They agreed to head west – to the mountains. Here the climate was more comfortable while the risk of meeting Japanese was less. In the evening a few women from the village brought rice again, and then later the old man returned. He said that he was glad to have the men in his village. "But you must not be here for many days," he added with a serious tone and explained that the village already been ransacked by the Japanese once. A few days later the old man came with a pamphlet, where the Japanese promised a reward to anyone who can provide information that may lead to "white men and their friends".

FILTERED URINE QUENCHED THIRST

They left immediately, but the four were exposed to the humid hell of the Sumatran jungle where snakes, scorpions, spiders and toxic malaria lurked. The men walked along a narrow path with trees on both sides. Over their heads vegetation closed in completely, then the path felt like a dark green tunnel with

a floor of mud. They ate rambutan – a plum-type large fruit with yellow-green hair and red skin – and what looked like prickly pear. The fruit tasted sour, but helped stave off thirst.

As soon as darkness fell, the unnerving noises began. In the tropics the darkness of night unnerved the men as they listened intently to the jungle's constant rattling, scratching and rustling along with a shrill scream that ripped into the darkness and frayed their nerves.

Near the mountains was rocky terrain and sparse vegetation. Here there was no water, and thirst became an acute problem – especially for Roy. After three days without water Charles tied up one of the legs of his shorts and filled it with soil. He urinated into the soil and left the urine to slowly seep through into a makeshift gourd. He drank and crinkled his face with revulsion. "I'm game," said Skinny, and the others followed. They all retched, but the drink had its effect, and they fell asleep.

Next morning, they were still thirsty, but felt renewed strength. Roy sat propped up against a tree. His face had a bluish tinge, his cheeks were sunken, and his eyes stared blankly into space. The others propped him up against a rock, and while Don was watching him Charles and Skinny went out to find water and food. Inside a rotten tree they discovered some beetles which they gathered up in Skinny's singlet. Charles rolled up the singlet and banged it hard against a rock until a slightly pink stain appeared through the cloth. They took the reddish pink jelly to Roy, kidding him that it was fruit. He was too weak even to eat. Two days later, the four men finally found a small stream. They lay down on their stomach and drank like animals.



Japanese propaganda portrayed the Japanese as friends to occupied people.

YOUNG CHINESE PROVIDED A LIFT

Relief was only short-lived, for the four escapees were in a deplorable condition. They were exhausted and

Prisoners' route to freedom

Life in a prison camp in Singapore would surely mean death. So, Charles McCormac leads a group on a flight that takes them 3,000 km through South-east Asia.

- 1** 17 prisoners escape from Singapore, led by Englishman Charles McCormac.
- 2** The men are attacked by a Japanese patrol.
- 3** A Dutch seaplane picks them up.
- 4** A Chinese truck driver runs the four survivors south through Sumatra.
- 5** McCormac works for the Japanese under a fake name.
- 6** A rebel group on Java helps the men.
- 7** An Australian aircraft brings them to safety.



had wounds on their legs from the thorny plants growing between the rocks. Charles' facial wounds from the meeting with the Japanese officer's sword had become angry, and Roy had started to become delirious. When they discovered a small village, their concerns about Roy led them to disregard all caution and so they went straight in to ask for help. When the residents heard that their guests were British, they were well received. Roy was given a massage with some white powder to help healing. The others were served hot curry hotpot and were shown to a palm hut.

The following morning they were presented to a young Chinese man named Nang Sen. He wore a silk sarong and newly pressed trousers, and when he smiled a few gold teeth glinted. A few days later the four climbed into the back of a battered truck. Nang Sen had received it from the Japanese so he could bring them rubber.

"The Japanese think that I am their friend, and I tell them everything. So I tell them everything. But only that part of everything which I want them to know", he said laughing.

"YOU ARE NOT ENGLISH?"

The men were dropped in Palembang in southern Sumatra, and they had to take turns carrying Roy the remaining distance to the sea. He could barely stand and hardly speak. On the way to the coast Charles and Don hunted for berries and roots, while they greedily soaked up the fresh sea air. Then one of them saw two figures walking towards them on the beach – it was Skinny and an attractive girl. "Look what I've found," smirked the young man, looking triumphantly at the girl at his side. She was mixed race – a mixture of Chinese and Javanese – and Skinny was laughing like a shy teenager.

The girl was called Li-Tong and came from a village nearby, he explained. Charles pointed to Roy and asked the girl if they could get help from her village. Li-Tong shrugged. "Let's take a chance", said Charles.

The natives were wary of strangers. Since Li-Tong was of mixed descent, Charles thought, it was probably a good idea to say that he had both European and Asian blood. The inventive thinking meant the villagers let their guard down. And when the Japanese hired men from the village to build a road Charles was referred to as "mulatto" and joined them to earn money for the rest of the voyage and Roy's treatment.

Charles came out in a cold sweat when he reported to the working team's Japanese foreman to register. He presented himself as "Oehlus". The foreman looked at him. "You are not English?" "No, tuan", said Charles, as he solemnly used the most respectful Malayan form of address. Charles spat on the ground to demonstrate his contempt for the English. "My father was German; my mother a Malay Eurasian," explained Charles, who had well-prepared this story. But now he was gripped by fear that the foreman would speak German to him, but he simply nodded appreciatively. "It is a good mixture", he said soothingly and wrote "Oehlus" on his list.

While Charles was working, Roy slipped into almost permanent unconsciousness. When Charles came home from work one day, Don said he didn't think that Roy would survive the night. He was right.

In the morning the men carried Roy's emaciated body to a clearing outside the village. They covered the grave with ferns and marked the spot with a cross of bamboo rods. When they went back to the village, Charles thought that they hadn't really got to know Roy. They didn't even know whether he was married or had children.

One of the men in the village had found a fisherman who could take them to Java. "We will look after your friend's grave", promised Li-Tong's father when the men bade farewell. Skinny looked embarrassed. He twisted and turned and said that he had decided to marry Li-Tong.

Charles and Don spent all night trying to convince him of the folly of the idea, but Skinny remained unmoved. It was only when the boat was getting ready to set off from shore the following day did he regret his decision. He tried to climb into the boat, but Li-Tong began to sob. The old man, who had given them the boat cut in: "If Skinner tuan does not stay, the fisherman will not take the other tuans across the water". The matter was settled. The last thing they saw as the boat chugged away was Skinny and Li-Tong, standing in the waves.

OBEY BLINDLY OR DIE

On the Javan island a local fisherman led Charles and Don into the jungle. "Friends there. You walk", said the man, pointing forward and left them. After a few hours they made contact with a guerrilla group fighting against the Japanese. The leader was Dutch and said he was called Mansfeldt. He promised to hide the two and help them along when the time came. Meanwhile they must obey his orders.

The two men went to join the group, which was composed of Dutch, Javanese, Mongolians and Chinese. The guerrillas had a large inventory of machine guns, rifles and revolvers, which Charles and Don were given the task of cleaning. They also cooked, cleaned and performed scouting duties. After three weeks, they were allowed to travel. Mansfeldt kept his word and presented Charles and Don to a nearly two-metre-tall Indonesian, who would lead them through the dense jungle. They would be taken to "their own", he said simply.

Charles and Don had to almost jog to keep up with the long-legged Indonesian. After several days of marching they came to a cave. Behind the opening sat a stocky, dark-haired man wearing khaki-green shirt and shorts. Behind him stood a tripod with rifles, machine guns and a radio transmitter. "All you need to know, chum, is that I'm here to help people like

you", he said with a strong Australian accent. The two men talked over each other until the Australian stopped them. They enjoyed a meal consisting of tinned tongue and sausage, new potatoes and peas. Meanwhile, the Australian sent a message over the radio to the city of Darwin.

In the plane on the way to Darwin the crew plied the two men with cognac. "What's the date?" asked Charles. "16th", answered a man from the crew. "16th of what?" "September, of course. What d'you think it was?" "We didn't know, cobber. Papers weren't delivered in the jungle". September. They had been on the run for five months. The two men emptied their glasses and looked at each other. Then they burst into tears.

Later Charles McCormac was told that *Wakefield* had not been sunk. The ship had arrived in Ceylon with his wife and their child who had been born aboard.

Prisoners built the railway of death

The Japanese forced prisoners of war to work on a railway line through the jungle, which would connect Thailand and Burma.

PERSPECTIVE



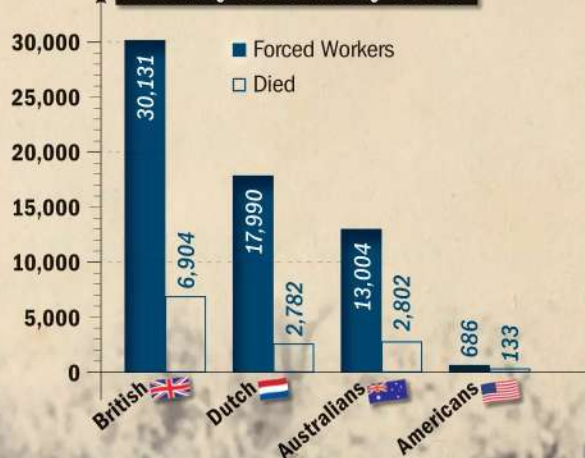
The powerful tracks were laid by hand in the baking tropical heat.

Throughout the war, the Japanese tried to control Burma. In order for it to deliver supplies from its allied partner Thailand, the occupying power put prisoners of war – primarily from Singapore – to work constructing a railway through the dense jungle. The hard physical work was done in humid tropical heat. The 60,000-odd Allied prisoners of war who worked on the project did not get enough food and diseases were rarely treated. Along with the prisoners of war, up to 200,000 Asian workers worked on the lines. Even though they were employed, their conditions were almost as bad and a large number also died.

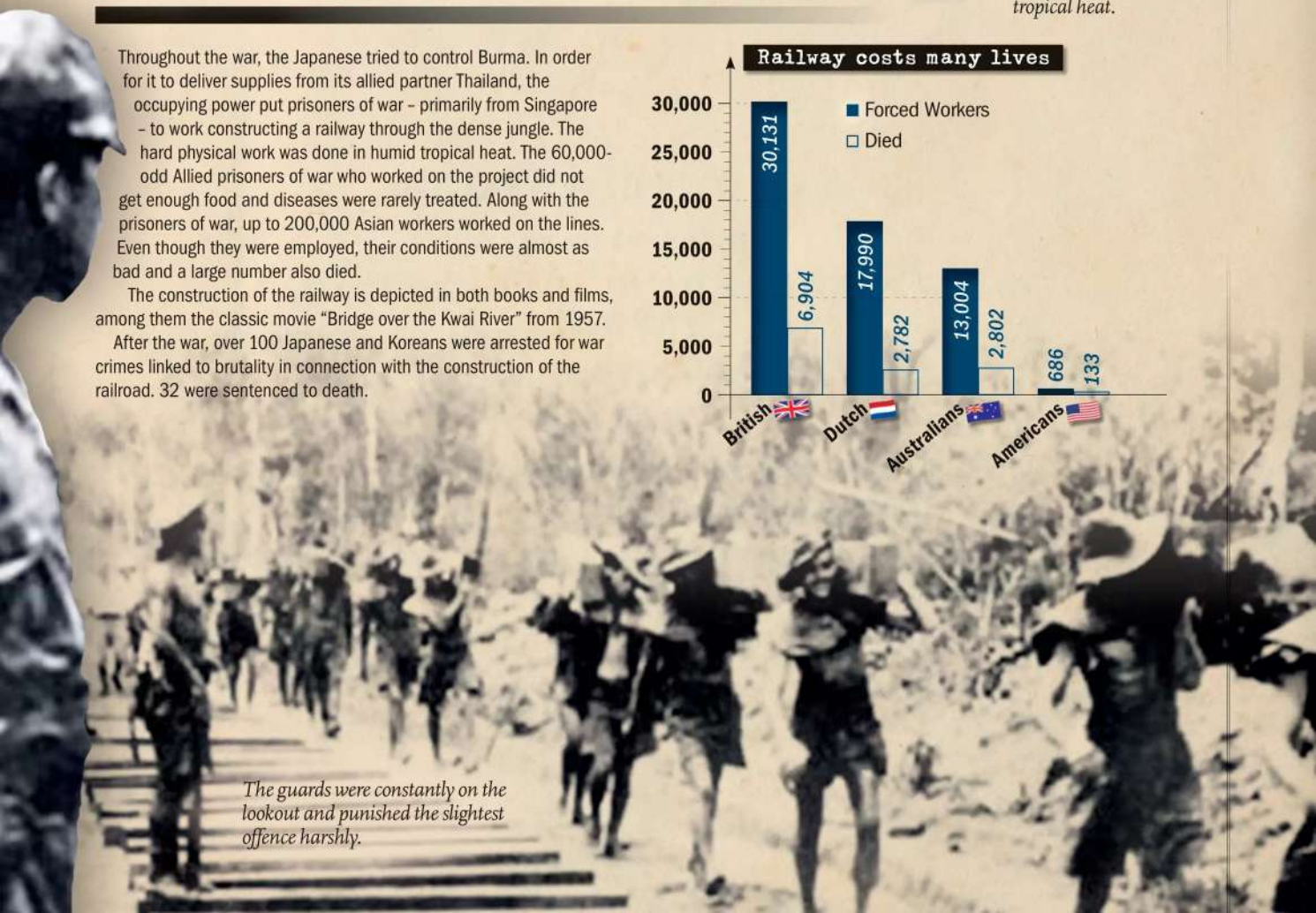
The construction of the railway is depicted in both books and films, among them the classic movie "Bridge over the Kwai River" from 1957.

After the war, over 100 Japanese and Koreans were arrested for war crimes linked to brutality in connection with the construction of the railroad. 32 were sentenced to death.

Railway costs many lives



The guards were constantly on the lookout and punished the slightest offence harshly.





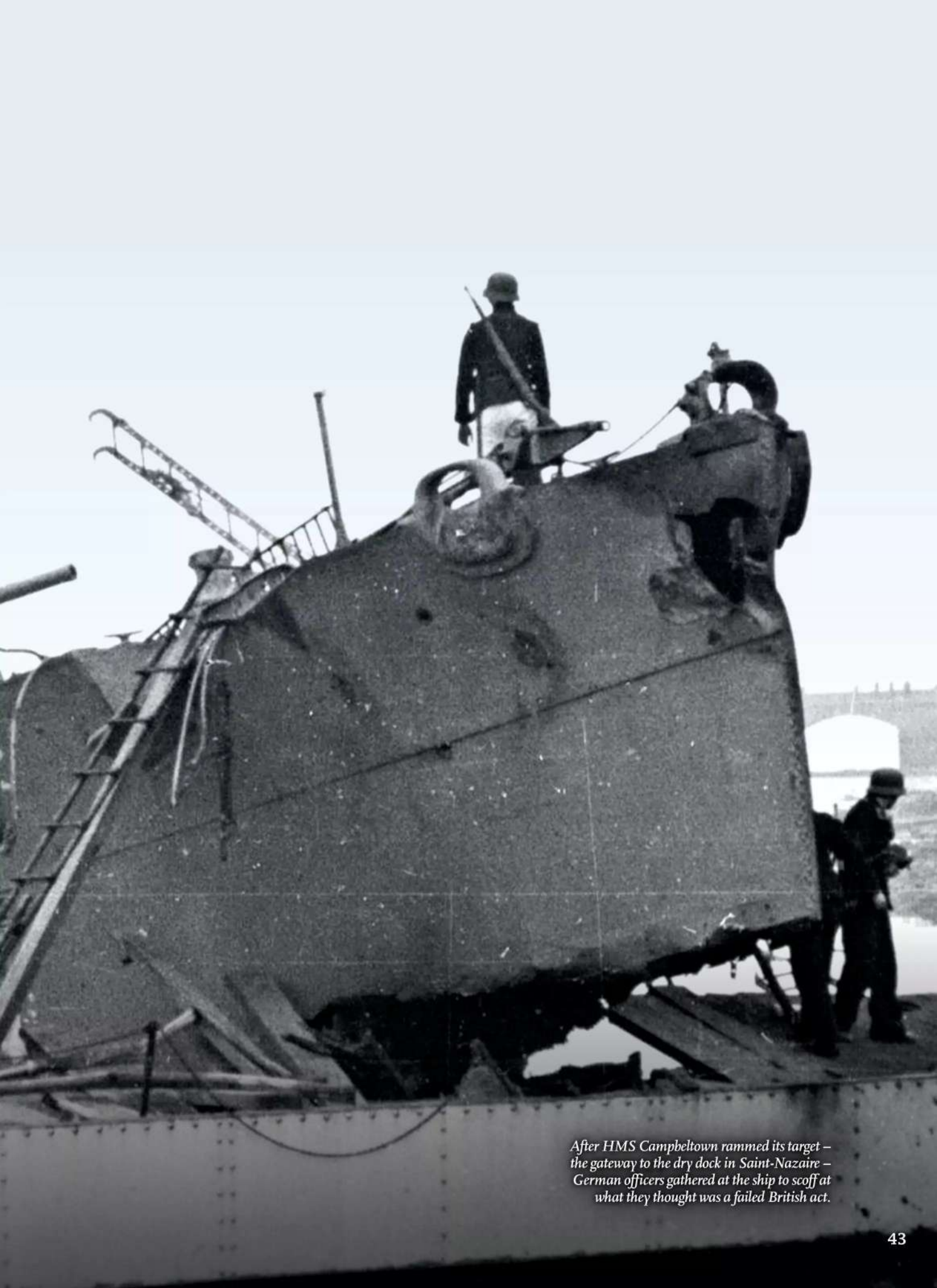
• RAID IN SAINT-NAZAIRE •

600 MEN SENT ON SUICIDE RAID

Winston Churchill will do anything to prevent the German battleship *Tirpitz* securing a base on the Atlantic coast. A destroyer is disguised as a German vessel and sneaks close to the giant dry dock in Saint-Nazaire. The destroyer steams at full speed into the outer lock gates, which initially resist. But the British have a trump card up their sleeve.

1942

28TH MARCH



After HMS Campbeltown rammed its target – the gateway to the dry dock in Saint-Nazaire – German officers gathered at the ship to scoff at what they thought was a failed British act.

THE STAGE IS SET



In 1942, Britain is pressured on all fronts. The country is the last bastion against Hitler's total dominance in Western Europe and its trade routes across the Atlantic are an umbilical cord. Hitler plans to cut the cord with battleships like *Tirpitz*, but the ships need a port on the Atlantic coast. And only one is big enough.



OVER 600 BRITISH SOLDIERS HAD GATHERED AT FALMOUTH on the south Cornish coast. The men faced a tense, uncertain wait. For two weeks in the spring of 1942 they'd trained hard and received little sleep. Only now were the soldiers told what mission they'd been assigned to. The target was the port city of Saint-Nazaire in the west of German-occupied France, where the Third Reich had built the world's largest dry dock – the only one on the Atlantic coast that could accommodate the battleship *Tirpitz*.

Tirpitz posed a daunting threat to the merchant ships that Britain was dependent on. If the shipping routes with the US broke down, the British would have no chance of preventing Hitler from invading the country.

Prime Minister Winston Churchill had made the destruction of *Tirpitz* the highest priority, one bordering on obsession. "The destruction or even crippling of this ship is the greatest event at sea at the present time", he stated. "No other target is comparable to it". At every opportunity he would stress the outcome of the war might depend on their ability to take *Tirpitz* out of action, and one of the main objectives in delivering that goal was to destroy the only Atlantic-based dry dock large enough to house the ship when it required maintenance or major repairs.

Churchill believed for a long time that it was best to let the French Resistance destroy the dry dock. That plan was dropped, however, when it was realised the saboteurs would be unable to transport sufficient explosives. A massive aerial bombing campaign was also dismissed, because Churchill feared it wouldn't be accurate enough and would take the lives of many civilians. Thus, an attack from the sea was the only option.

The seriousness of the situation was rapidly made clear to the 600 soldiers in Falmouth. They were told it was

a highly risky operation and that many would die. If they chose to opt out, then there would be no consequences for their careers in the armed forces. Not a single one backed out.

The date was 25th March, 1942, and the operation was christened Chariot. It would be a swift surprise attack.

SPRING TIDE PROVIDED MISSION WITH UNIQUE OPPORTUNITY

The weeks leading up to the mission had seen the soldiers train in local ports. One group had practised in Cardiff, another in Southampton. Both had practised mock assaults on cranes, ships and pumps that – according to intelligence – were similar to the equipment at Saint-Nazaire's port. The commandos had

learned all the dry dock's weak points and had exercised so intensely they could almost perform blindfolded.

Two days later, on 26th March, the serious business began when a swarm of naval vessels departed Falmouth. Departure

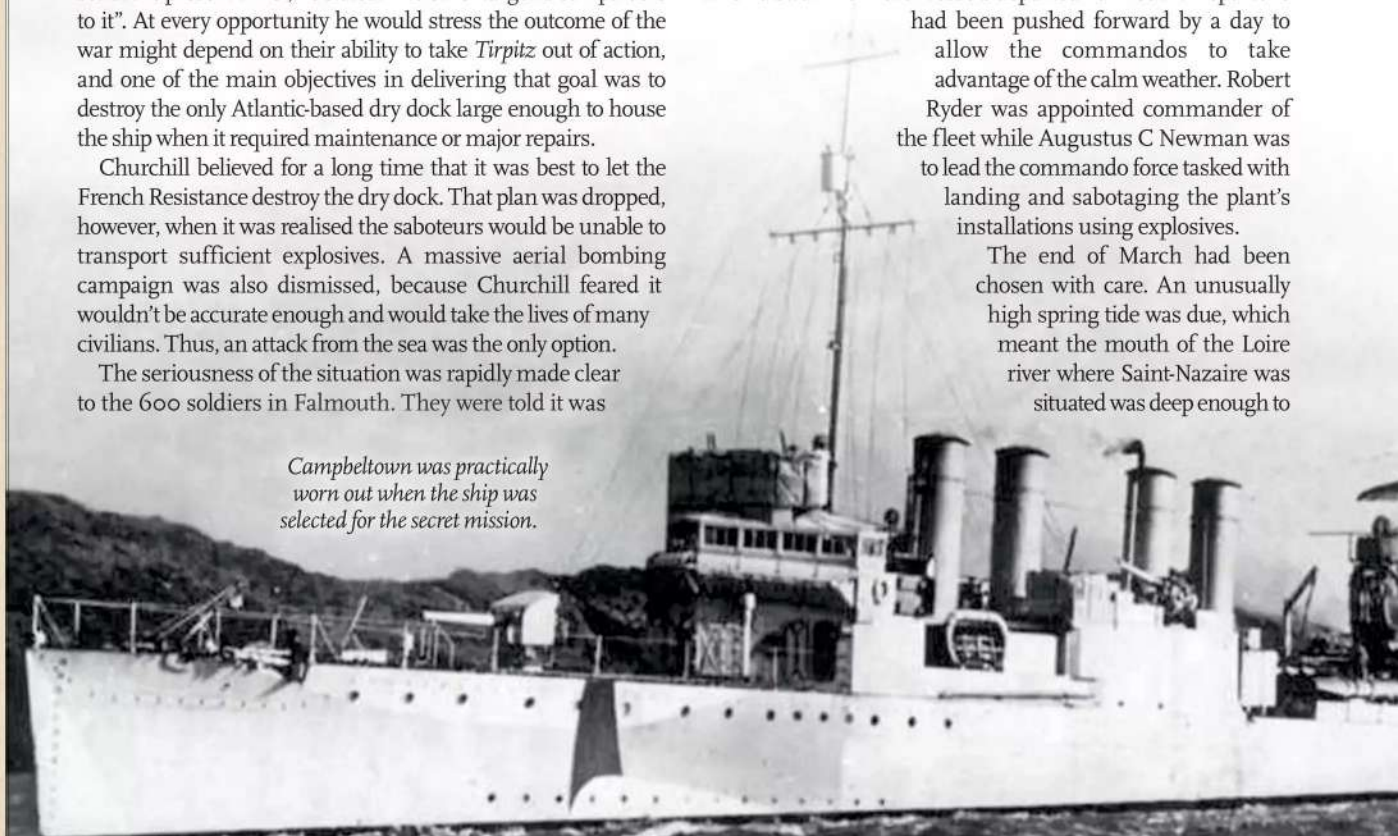
had been pushed forward by a day to allow the commandos to take advantage of the calm weather. Robert Ryder was appointed commander of the fleet while Augustus C Newman was to lead the commando force tasked with landing and sabotaging the plant's installations using explosives.

The end of March had been chosen with care. An unusually high spring tide was due, which meant the mouth of the Loire river where Saint-Nazaire was situated was deep enough to

5,000 German

soldiers were stationed in and around Saint-Nazaire, armed with artillery, machine guns and anti-aircraft guns. Against them stood a British force of 622 men.

Campbeltown was practically worn out when the ship was selected for the secret mission.



The Victoria Cross remains the most prestigious award for valour against the enemy.

allow the fleet to head directly into the harbour rather than following a winding – and heavily defended – dredge channel. Meanwhile, if the Germans discovered the flotilla of ships, they'd likely believe it was heading to the large naval base at Gibraltar.

The fleet consisted of 19 vessels, 13 of which were small and light motor launches, each with a mahogany veneer hull so thin it could be holed by a rifle shot. On the deck stood tanks with extra fuel, so each boat could return to England under her own power. These tanks made the launches a highly flammable target, although on the upside they were fast.

A gunboat and four larger torpedo boats would remain at sea away from the estuary to gather up the troops as they – hopelessly – returned from the mission.

DEADLY CARGO CONTAINED HIDDEN BOMBS

The armada's flagship was *HMS Campbelltown* – an obsolete destroyer that had been built in the US in 1919. The vessel had been stripped of all superfluous equipment to make her sit lightly in the water, although the bow was reinforced with extra heavy steel plates to withstand an anticipated bombardment.

The ship's most important cargo was below decks: 24 depth charges containing a total of just over four tonnes of explosives. The bombs were camouflaged by laying them in steel tanks and then embedding the tanks in concrete. The plan was for *Campbelltown* to sail up close to the heavy sliding door that protected the dry dock. After colliding with it, commandos would run ashore to sabotage the dock's installations. By 08.00 the following morning, the huge explosive charge would detonate and destroy the door – if the timer worked. The concrete camouflage was designed so that if German troops boarded the ship, they wouldn't recognise the bombs and frustrate the operation.

In addition, *Campbelltown* had been radically refitted to closely resemble a German Möwe-class destroyer. To add credibility to her disguise, *Campbelltown* would sail under the swastika flag.

U-BOAT LURKED BENEATH THE SURFACE

The weather was perfect as the fleet sailed south on the morning of 27th March. In fact, Commander Ryder felt visibility was too good. He was proved right when at 07.00 the armada was spotted by the German submarine *U-593*. The fleet's two destroyers spent a couple of hours pursuing the U-boat, dropping depth charges without success. On the other hand,





NAME	ROBERT RYDER
TITLE	NAVAL FORCE COMMANDER

Warrior was highly decorated

After Robert Ryder's ship, *Prince Phillippe*, sank in 1941 after a collision in the Firth of Clyde, he found himself without a mission. The commander was selected to lead the Saint-Nazaire raid, which he conducted with great skill. After the attack, Ryder succeeded in escaping and – along with four others – received the Victoria Cross (two received it posthumously). After the war, Ryder went into politics.

- Received the Victoria Cross for bravery.
- Was later a Conservative MP.

they forced the sub to remain submerged, preventing the crew from making radio contact. It wasn't until 14.20 – more than seven hours later – that the U-boat commander resurfaced and reported on the British convoy. He estimated – just as the British had hoped – that they were minelayers bound for Gibraltar. By this time, the fleet had changed course and was heading east towards the French coast.

At 18:30 one of the launches developed engine problems and had to return home. Another challenge arose when the British encountered a whole fleet of French fishing boats. They feared German observers were on board, but with so many boats they had to settle for inspecting only a few. When the fishermen swore that there were no Germans or radios onboard, Ryder risked believing them and continued approaching the coast.

Early in the evening, the fleet approached German-occupied France. Darkness fell, and to Ryder's satisfaction, it turned cloudy. At 22.15, they passed the British submarine *Sturgeon*. The vessel had sailed ahead and remained in a fixed position a short distance from the entrance to Saint-Nazaire. Her role had been to continuously transmit radio signals to guide navigation, providing a direct line that would lead straight to the target.

FLEET SAILED INTO THE LION'S JAWS

Immediately after rendezvousing with the *Sturgeon*, 16 of the fleet's 18 vessels assumed battle formation, and from here they sailed directly into the Loire's mouth and started heading upriver.

The Motor Gun Boat *MGB 314* sailed at the front of the formation with radar and sonar onboard. It was followed by two Motor Torpedo Boats (MTBs), then *HMS Campbelltown*, and finally the numerous motor launches.

MGB 314's sonar proved vital, for although it was high tide, there wasn't much water in the estuary. *Campbelltown* extended almost four metres below the surface, and twice her hull noisily scraped over one of the river's many sandbars. All aboard held their breath, but each time *Campbelltown* managed to free herself. The convoy's speed was around 12 knots, or 22 km/h. It was completely dark and for now everything proceeded smoothly. >>>



HMS Campbelltown	
Launched (as USS Buchanan)	1919
Transferred to Britain	1940
Length	96 metres
Weight	1,260 tonnes
Draft	3.7 metres
Top speed	35 knots (65 km/h)

BRITONS INHERITED OLD SHIP
In 1940, the US decided to help the British. An agreement was made whereby the British received 50 older destroyers in return for giving the US the right to establish bases on British soil. One was the USS Buchanan, which was renamed *HMS Campbelltown*.

At midnight, an explosives expert aboard *Campbeltown* primed the timer, set to detonate the four tonnes of explosives eight hours later. The mechanism triggering the explosion was primitive – acid slowly eating through a layer of copper. When the copper was eaten through, the current would be terminated to set off the explosion.

The flotilla passed a German radar station without being detected, and at 00.30 they sailed – almost miraculously – past one of the dreaded coastal batteries without being fired upon.

It was also quiet inside Saint-Nazaire. The harbour was an important submarine base for the German Kriegsmarine, and the whole city was heavily guarded. Around 5,000 German

troops were stationed in the city, which had been transformed into one huge fortress. Coastal batteries, long-range guns and a host of searchlights covered the entire estuary, which meant the fleet could find itself under heavy fire from artillery of all sizes. The city was also considered an obvious bombing target and so was packed with anti-aircraft guns.

DEVILRY WAS AFOOT

The previous day a German admiral had visited the city and asked its commander, Lieutenant Commander Herbert Sohler, what he would do if the Brits attempted to attack the port from the sea. "It would be out of the question for the

Ship served as battering ram

HMS Campbeltown was sailed at full speed towards the gate of a dry dock in Saint-Nazaire. The Germans were fooled into thinking the destroyer was just out of control.



English to enter the harbour”, was Sohler’s dismissive reply. To distract the Germans’ attention from the river, the RAF had planned a raid on the port the same night, but cloudy conditions allied with fewer planes being deployed than agreed meant the attack was a half-hearted one.

Some of the British planes continued to circle the city, every now and then dropping a single bomb. But the lack of any major bombardment made German commander Karl-Conrad Mecke suspicious.

“Some devilry is afoot”, he told one of his officers, and at midnight he ordered that everyone should be on high alert. Mecke guessed the British planned to parachute in and ordered all lights in the harbour switched off, making it harder to find.

Ironically, his orders had the opposite effect, helping the British flotilla as it neared its objective. The crews were surprised to reach the estuary mouth without being met by dazzling searchlights or the least resistance. “This is almost too good to be true”, was the murmur on board many of the ships.

And it was. At 01.20, the alarm was raised to all German troops:

“Beware landing”.

A moment later, spotlights located the British boats on the dark water, but after a brief round of light cannon fire, there was a break in the shelling. The bluff of making *Campbeltown* resemble a German destroyer appeared to be working, and the swastika flag confused the Germans for a few precious seconds. German defenders then flashed light signals to the ship, but the British were prepared. *Campbeltown* responded with its own signals:

“Wait! Urgent: two craft damaged by enemy action, request permission to proceed to harbour without delay”, the message flashed in German.

For a brief period, the Germans halted their shelling – a second flurry of gunfire was temporarily halted when *Campbeltown* signalled “You are firing on friendly ships”, but the game was soon up. The bluff had been called and all hell



Fast motor launches were deployed to bring the British troops to safety after the raid, but the light ships were extremely vulnerable.

broke loose. Guns fired from both banks of the estuary and the British crews began to return fire as best they could.

The Germans concentrated their fire on *Campbeltown*, bombarding her with shells. Several fires had started, but although her captain – Lieutenant Commander Stephen Beattie – was blinded by the spotlights, he resolutely ordered full speed ahead. *Campbeltown* sped up to 20 knots, but then

her helmsman was hit and died on the spot. The quartermaster took his place, but was also quickly shot, leaving demolition specialist Lieutenant Nigel Tibbits at the helm. The course was set directly towards the massive southern gate and just before *Campbeltown* roared into it, Beattie yelled a warning to all the commandos on board: “Stand by to Ram!”

The destroyer tore through the gate’s anti-torpedo net that had been laid to protect it and at 01.34, the old destroyer sped into the entrance to the dock with such force that the bow of the 1,000-tonne ship lifted over the gate and her forward compartments crushed

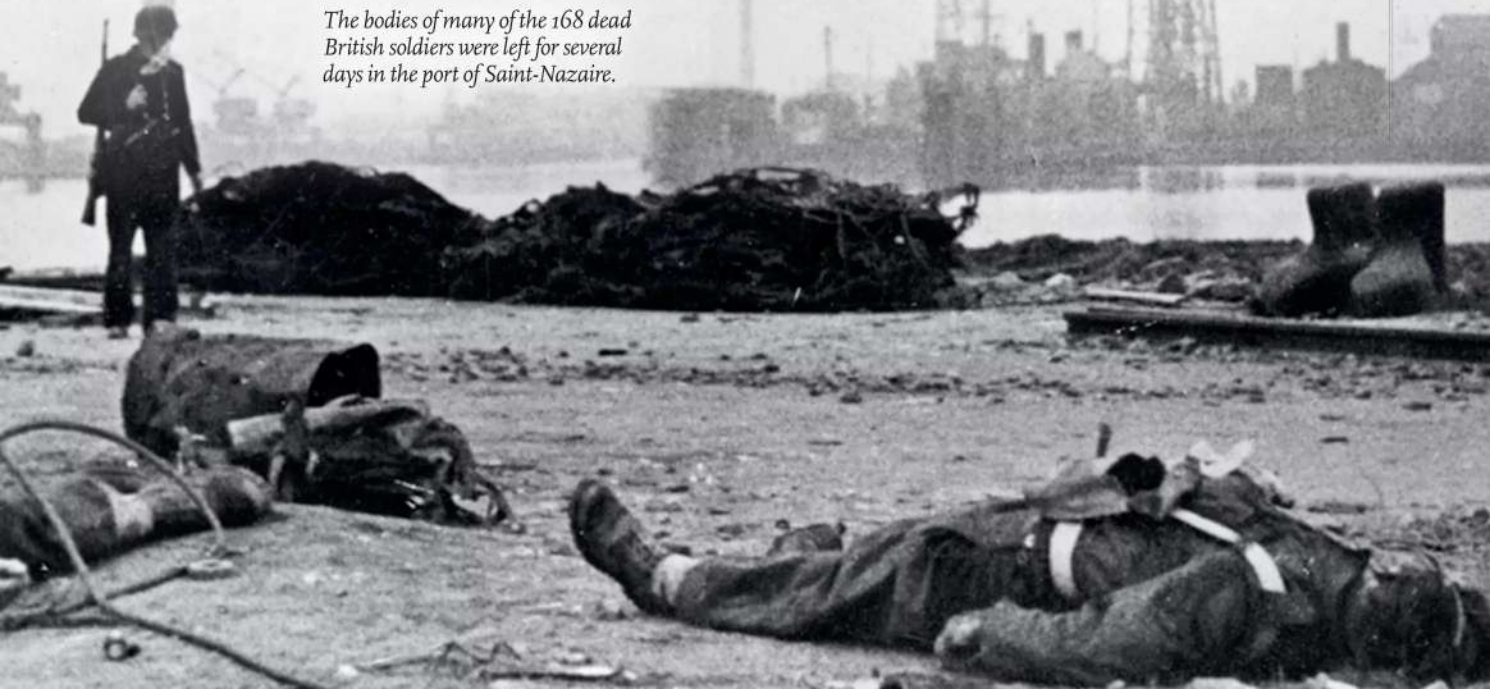
reducing her length by 10 metres.

As planned, this meant the huge explosive charge in the ship’s forward compartments were embedded next to the sliding gate, while the acid was now slowly but surely eating its way through the copper layer. The moment it reached the explosive core it would set off a lethal blast that would hopefully destroy the gate and flood the dry dock. If

“The Greatest

Raid of All” is Operation Chariot’s epitaph in military history. It went on to inspire several other raids as well as the 1967 film, “Attack on the Iron Coast”.

The bodies of many of the 168 dead British soldiers were left for several days in the port of Saint-Nazaire.



the explosive failed, it was imperative that the destroyer couldn't easily be removed – Beattie immediately ordered some of his men to blow holes in the ship's hull.

COMMANDOS WENT ASHORE

The raid wasn't purely concerned with taking out the dry dock. The British commandos were also tasked with destroying as many facilities as possible within the strategically vital port. Immediately after *Campbeltown* ploughed into the sliding gate, the first commandos disembarked and began the mission they'd trained so diligently in the ports back home.

Many of the soldiers were heavily laden with explosives, so only able to defend themselves with guns. Others were more heavily armed to serve as a vital support group.

One important target was to blow up the pumps and machinery used to drain the docks of water. Fortunately, the intelligence about the pump house in Saint-Nazaire proved correct, the building closely resembling the facsimiles the

soldiers had trained in. Despite the fact many soldiers were wounded as *Campbeltown* ploughed into the gate, it was a quick job to place the explosives in the correct locations, including the pumps themselves 12 metres below the surface. The man lighting the fuse – Lieutenant Stuart Chant – was among the injured, but despite having

350 metres

was the length of the dry dock at Saint-Nazaire. Its width was 50 metres, and its height 15.25 metres, allowing it to accommodate the largest battleships.

taken gunfire to the leg, he was able to limp up the stairs towards the pump house's entrance, step-by-step. He had 90 seconds to make his escape – and he succeeded.

The explosion from the pump house was enormous, and the men couldn't resist running back to watch. They were satisfied: the destruction was total. Not only were the pumps blown to pieces, but large cracks had developed along the thick concrete floor.

The commandos could now embark on their secondary objectives, including the two winding sheds that contained the machinery to open and close the gates to the dock. Another target on the list was the plant's underground fuel depots.

The two winding sheds were destroyed, but the northern sliding gate proved to be inaccessible and too well covered by German machine gunners. The mission's ultimate success would now rest on the explosives in the *Campbeltown*'s hold, up against the southern gate, making the dock unusable.

MOTOR LAUNCHES ABLAZE

While everything went to plan for the surviving commandos on *Campbeltown*, it was much harder for the soldiers in the small motor launches.

The plan was for them to land on the "Old Mole" pier, but the flimsy boats were under heavy fire from the 20-mm machine guns that the Germans had installed on the quay. Several motor launches were alight after the Germans hit the



Campbeltown's official emblem contained branches from the myrtle plant.



Those British soldiers who were captured were gathered at the port and later transferred to prisoner-of-war camps in Germany.

fuel tanks on deck, and now they were failing to land at the pier, which was far more closely guarded than expected. The motor launch *ML 192* was hit by a large shell, killing many on board and leaving the boat so incapacitated that her captain could no longer control her. He immediately issued an order for all survivors to immediately abandon ship.

Another launch – *ML 457* – did manage to succeed in landing 20 commandos, whereas five sister ships had to retreat. *ML 192*'s assault group commander – Captain Michael Burn – also managed to swim ashore in full combat gear. The plan had been to land 70 soldiers. Meanwhile, chaos reigned on the Loire. Burning boats and debris bobbed around, some soldiers jumped into the water, while others cried in pain. The German shelling continued, relentlessly.

The 20 soldiers who made it ashore soon found themselves in the middle of a nightmare. First, they were forced to run the gauntlet of enemy fire on the Old Mole, and those who made it through were then forced to cross an open space where they were easy prey to German guns. Quickly, it dawned on them there were no reinforcements coming, but nevertheless they managed to blow up two French tug boats. On the other hand, it was impossible to destroy their main designated target: a bridge crossing the southern entrance to the port.

At the same time many commandos who were put ashore after *Campbeltown*'s brutal collision with the sliding door were also running in trouble. The original plan was that they'd have to make their way back towards *Campbeltown* from where they'd be picked up by one of the other ships. In the meantime, however, the Germans had taken *Campbeltown*, so the soldiers would instead have to look towards the old pier where they hoped the motor launches would be able to take them onboard.

But that plan had to be abandoned too. The Old Mole never came under British control, so now a back-up plan came into force. It sounded short and sweet: the commandos were to fight their way through the town and into open country, and from there head south through Spain to Gibraltar.

The instructions were clear, but no one was





The port of Saint-Nazaire was covered by debris from destroyed buildings as well as metal pieces ripped from damaged pipes and equipment. It took days to extinguish all the fires, and the firemen discovered many bodies of soldiers and civilians who'd been looking at Campbeltown.

enthusiastic: the road to Gibraltar was 1,700 kilometres through occupied France and fascist Spain.

The commandos divided into smaller groups and started making their way through the port area in search of the old town of Saint-Nazaire. It was still pitch black, with Germans teeming everywhere. Several British soldiers were killed making their way through an open space, and more lost their lives traversing the bridge linking the port to the city. Here the Germans stood ready with machine guns, and only when 40-50 commandos stormed the bridge were they able to displace the German guards. Most British soldiers escaped alive across the bridge, but the old town was a labyrinthine tangle of narrow streets, and soon they started to separate.

THE TOWN WAS SURROUNDED

The Germans hadn't been idle – they'd called for reinforcements, and soon the first motorcycles arrived from the nearby 679th Infantry Regiment. They paired up with local troops to surround the town and begin a house-to-house search, capturing the British one by one – many of them wounded. 15 found refuge in a basement where they managed to evade capture all night, but the game was up when they were discovered the following morning.

The situation on the river was equally desperate. Many of the motor launches were incapacitated, and those few that could still navigate were limping back out to sea – some at half power. The river's water was full of corpses, and although their orders read that the commanders should not stop to collect the wounded, Lieutenant Wynn on *MTB 74* couldn't bear to sail past a rubber raft with two British soldiers. He gave the order for a full stop, and shortly after *MTB 74* came alongside the raft. Unfortunately, this placed the boat directly in the firing line of one of the German guns on the coast. Two large shells set the torpedo boat on fire, and Wynn was forced to order his crew into the water.

SEA RESCUE HAD VANISHED

The British were easy prey during the retreat. Despite this, several of the small boats managed to get out to sea in the

direction of *Tynedale* and *Atherstone*, the two destroyers that were lying in wait around 40 kilometres off the coast. Here the crews waited to receive the many wounded, but the ships weren't at the agreed position. They'd ended up in a fierce firefight with German torpedo boats and had been forced off-course. A few badly damaged British boats managed to find their rescuers at around 04.30 that morning, but three of the motor launches escaping the port at Saint-Nazaire were – with little power and badly wounded crews – forced to limp back to safe harbour in England.

Some didn't even have that option. Motor launch *ML 306* met five German motor torpedo boats as she made her way across the open sea. At first, the captain switched off the engine and hoped for the best while he and the crew waited silently in the darkness. Four of the German vessels passed the British boat within 100 metres without spotting her, but when the Germans aboard the fifth boat switched on a searchlight they immediately detected *ML 306* and raised the alarm. Immediately all five boats circled *ML 306* like predators closing in on prey.

The Germans expected the British commander to surrender immediately, but it was only after a prolonged firefight that the men aboard *ML 306* gave up when the German captain of *Jaguar*, one of the five torpedo boats, repeatedly called in broken English to give up the fight, assuring those on board they'd not suffer further damage. By that time, 20 of the 28 crew members had either been killed or injured.

TOWN RESIDENTS TOOK UP ARMS

Next morning Saint-Nazaire's residents woke up to a sight of extreme destruction. Heavy smoke hung over the town, and the bodies of German and British soldiers littered the ground. Many shelled buildings were still raging fires and the surviving defenders were on full alert. They assumed enemy forces still hid in many of the city's old houses, narrow courtyards and deep cellars.

The Germans were so nervous during their search that they repeatedly opened fire, and in several cases shot at each other.

228 soldiers

out of the 622 men deployed to Saint-Nazaire returned to Britain after the raid. Five of them had to travel all the way through France and Spain.

The tense situation wasn't helped by the fact several of the city's French residents mistakenly believed the attack was the beginning of the liberation of their occupied nation. On their own, they began to attack the already confused Germans with handguns.

Along the banks of the Loire, bodies also floated around while individual survivors were pulled from life rafts – and immediately captured by the Germans.

THE RAID APPEARED TO HAVE FAILED

By 08.00, it was six and a half hours after *Campbeltown* had slammed into the dry dock's gates and the raid on the port's installations had begun. The destroyer still rested with her bow on top of the gate. The 24 depth charges embedded in concrete in the ship's cargo containers should – at this precise moment – crush the bow of *Campbeltown* and destroy the gate to the dry dock. But nothing happened. The explosive hadn't fired and the surviving Britons assumed their sacrifice had been in vain.

The Germans investigated *Campbeltown* thoroughly, but no one twigged what the concrete was doing near the bow. They assumed it was designed merely to increase the force of the collision, and the mood around the boat was almost cheery.

"If this is all you could do, was your raid really worth it?" was a typical sneer to the prisoners.

There were swarms of German and local French sightseers on the boat. The weather was beautiful, and officers arrived in large numbers, several in the company of French friends.



The raid in Saint-Nazaire was carried out by Royal Navy commandos.

Gradually, several hundred people gathered around the stricken ship.

At 10.35, two and a half hours later than planned, there was an explosion that made the entire town tremble. *Campbeltown* exploded into two pieces, raining down red-hot metal parts, debris and broken glass over Saint-Nazaire. In a short time, the dry dock was filled as water flooded through the gaping hole in the gate.

Body parts from the bystanders draped over cranes and masts. The explosion was so powerful that two large tankers were thrown against a neighbouring quay with such violence that they sank.

The explosion set off total panic in town. The Germans couldn't comprehend what had happened, and thought they were being subject to another raid. They saw enemies everywhere and shot freely at anything and everyone. The losses mounted, and *Campbeltown*'s destruction brought with it the loss of 250 people. Most importantly, however, the dry dock was destroyed so effectively it would only be repaired after the war's end.

Although the Germans captured most commandos, five Britons managed to escape from Saint-Nazaire. Help from the local Resistance and other French people, allied with a difficult detour, allowed four of them to successfully go through France and Spain to Gibraltar. One was arrested and imprisoned in Bordeaux, but after eight months in captivity he managed to escape and move on to Spain. Like his four compatriots, he returned to Britain where all five signed up once again for active service.

PERSPECTIVE

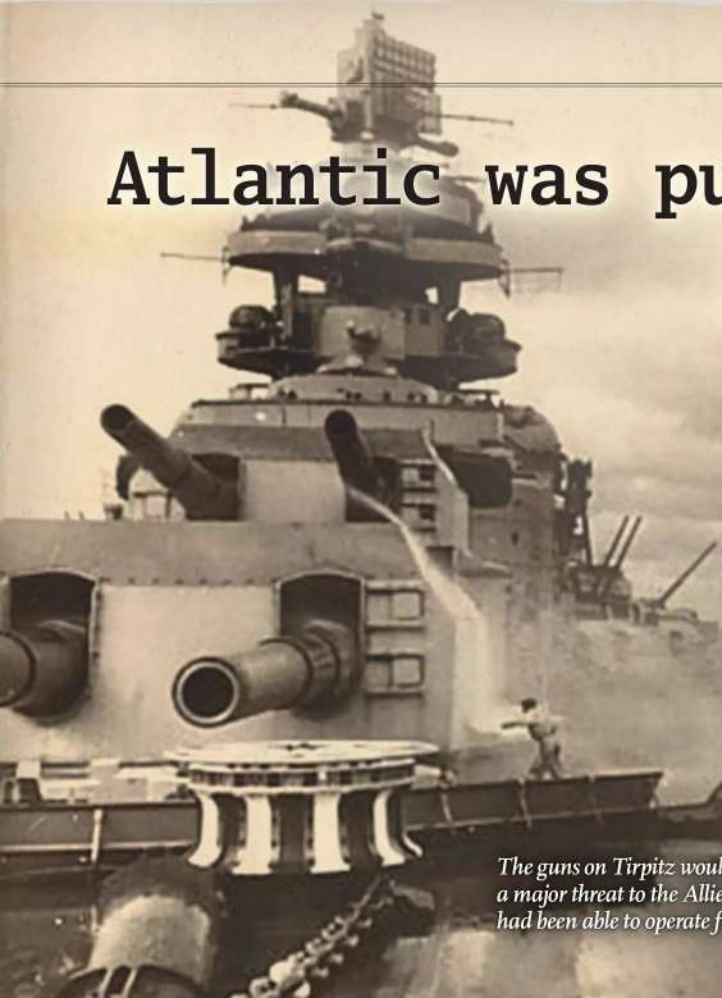
Atlantic was put out of reach

The action in Saint-Nazaire destroyed the dry dock so completely that the Germans abandoned trying to fix it. Battleship *Tirpitz* was left homeless in the Atlantic.

Hitler's plan was that the largest German battleships ever built – *Tirpitz* and her sister the *Bismarck* – would isolate the UK and, with help from U-boats, cut off vital supplies to the island nation.

Churchill was aware of the threat and made every effort to prevent the ships gaining free rein. The Royal Navy had already sunk *Bismarck* on her maiden mission, and the destruction of the dry dock at Saint-Nazaire meant no Atlantic ports in occupied Europe could accommodate *Tirpitz*. Instead, German naval command ordered *Tirpitz* to remain in the waters around Norway. Here, the battleship took part in several operations, but never played a major role.

The guns on Tirpitz would have been a major threat to the Allies if the ship had been able to operate freely.



British Churchill tanks advanced in 15-metre-wide corridors that the infantry had cleared through the German minefields.



1942

23RD OCTOBER



• 🇬🇧 • BATTLE OF EL ALAMEIN • 🇬🇧 •

DESERT RATS SEND ROMMEL PACKING

Montgomery's Desert Rats are the last barrier between the Germans and the Arab oil fields. 1,600 tanks come together in the Battle of El Alamein, where Britain's fate will be decided. Their opponent is Hitler's strongest card: "Desert Fox" Erwin Rommel.

North Africa, 1942

THE STAGE IS SET



The war is being fought on two fronts. One is Russia, where the Germans have reached Stalingrad hoping to take the Caucasus oil fields. The other is in the Egyptian desert, where Nazi Germany wants access to the oil in the Arabian Peninsula. Here, Field Marshal Rommel has reached El Alamein – just 240 kilometres from Cairo.



THE DESERT WAS COMPLETELY QUIET. The night sky was clear, and the soft moonlight had coloured the cold, flat landscape a steel grey. A total of 328,000 troops and nearly 1,600 tanks were pointed covertly at each other, hidden in trenches and camouflaged on opposite sides of a front just 60 kilometres long, separated by a wide minefield. No civilians and buildings stood in their way – it was army against army, ready to battle at a time that would suit the British commanders. Everyone now waited nervously for when the silence would be broken to be transformed into a storm.

GERMANS HAD ENJOYED PLENTY OF SUCCESS

For two years, the Desert War had wavered back and forth. Hitler wanted to wrest Cairo from British hands and use the Nile Valley as a springboard to the giant oil reserves in the Arabian Peninsula as well as the Suez Canal in Egypt, which was a gateway to the Indian Ocean and eastern riches. The Führer had nearly fulfilled his dream: German field marshal Erwin Rommel had penetrated all the way to El Alamein in Egypt – just 240 kilometres short of Cairo.

Rommel's campaign had begun in the Italian colony of Libya. The astute commander had led a numerically inferior

army to a string of victories over the British in the desert, who'd quickly dubbed him "Desert Fox". His advance towards Cairo was, however, so fast that his supply chain couldn't keep up. Fuel, weapons and ammunition were shipped from Italy to Tripoli in Libya to be transported through the desert by truck. When Rommel reached El Alamein, his supply line was 2,000 kilometres long and extremely vulnerable. The columns of trucks were attacked by British fighters, while Italian cargo ships in the Mediterranean were sunk by Allied submarines and warships.

Rommel now had no choice but to halt his advance. He decided to barricade his army behind a wide belt of mines and ordered the infantry to dig into trenches. The British might not have the opportunity to fight back.

CHURCHILL SENT THE RIGHT MAN

Prime Minister Winston Churchill had until that point been under increasing pressure. Politicians and military personnel, both at home and abroad, doubted whether the British army could even win a single battle. Now he finally had an opportunity to give the Allies hope.

Until now, the Desert War been fought on Rommel's terms. Churchill decided to send the unknown, but promising Lieutenant General Bernard "Monty"

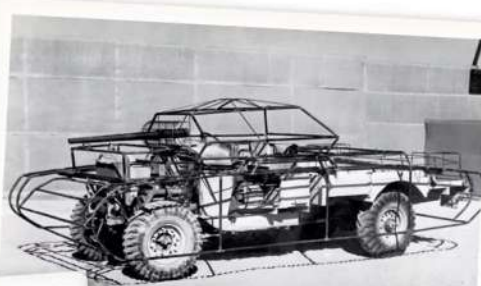
Montgomery to North Africa. He thought he held the key to breaking the Desert Fox's defences. Montgomery broke with conventional thinking that tanks should advance ahead of the infantry. He planned to let his artillery destroy enemy gun emplacements before giving the infantry an order to clear a path through the minefield. Armoured forces would then finally advance to fight face to face and send the enemy on the run.

The British lieutenant general was given encouragement by the dreaded field marshal's absence – through illness – on the battlefield. The previous two years had taken its toll on the Desert Fox's health and he was on sick leave in Austria, with a temporary commander in charge at El Alamein.

MONTY ATTACKED INDIVIDUAL POSITIONS

At 21.10 on 23rd October, the moment came that the troops in the desert night had anxiously waited for. 800 British guns broke the silence in a single second. Their fiery mouths

News of enemy forces and movements were in high demand on both sides of the front in North Africa. Vehicles were disguised to fool the enemy...



... as tanks and vice versa. The British "Middle East School of Camouflage" in Cairo were experts in disguising cars.





New Zealand soldiers took part in the Battle of El Alamein under Montgomery's command.

lit up the darkness, and the thunder that rolled across the night sky could be heard in Alexandria 120 kilometres to the east. Montgomery instructed

the artillery to concentrate its fire on a specific part of the enemy positions rather than distribute their shells evenly. He compared it to spraying the enemy hard with a water hose rather than letting rain pour softly over his head.

The shells first pounded the German and Italian artillery positions. This initial bombardment lasted for 40 minutes and destroyed hundreds of enemy guns. On average, the Axis gun positions were subject to 20 shells for each one they fired in return. German and Italian gunners died in their droves while others were deafened by the explosions and bled from their ears.

Next, the British guns trained on the German-Italian infantry, which lay just the other side of the minefield. Trenches, barbed wire and minefields were destroyed. The frontier bombardment lasted for five minutes. Minesweepers from the Royal Engineers moved first – armed with mine-detectors – while the infantry followed behind them: “The detector required even

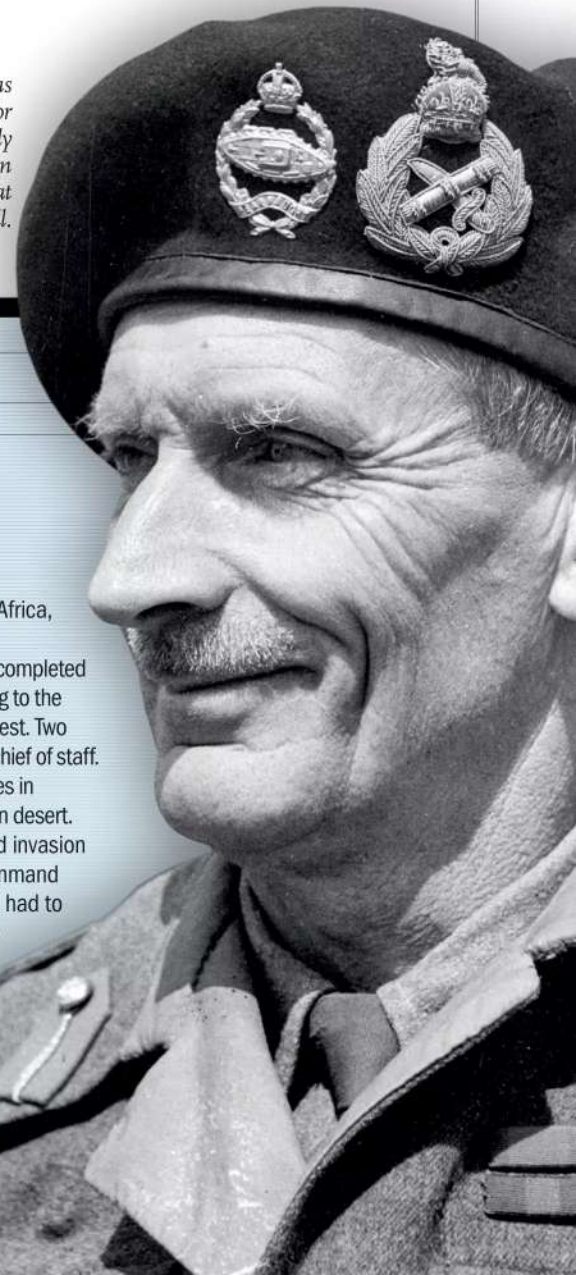
more courage, for the sapper had to stand upright, ‘moving the detector arm backwards and forwards over the desert surface’”, wrote historian Ben Shephard – all while bullets whizzed around them and everyone else stooped or lay flat on their stomachs to avoid being hit.

When a detector signalled the presence of a mine, an soldier squat and thrust his bayonet diagonally into the ground. If the tip hit a mine, it was dug up and carefully disarmed.

While the soldiers painstakingly worked their way through the minefield, projectiles swept over the battlefield from German tanks and machine gun nests. Soldiers fell screaming in the sand while their comrades continued the offensive.

Thousands of men and hundreds of tanks pushed forward slowly along the mine-swept corridors in darkness. The infantry wore storm lanterns on their backs, so while the soldiers behind them could find their way, the light remained invisible to the enemy in front of them. Others laid long white strips of cloth behind them to mark the attack corridors that were initially 15 metres wide. Soon the

Montgomery was notorious for constantly emphasising his own qualities. It put him at odds with Churchill.



1887-1976



NAME

BERNARD MONTGOMERY

TITLE

MAJOR GENERAL

Desert rat was Eisenhower's rival

General Montgomery was Winston Churchill's trump card. After his success in North Africa, however, he jostled with the US commander for influence.

Bernard Montgomery was born in London in 1887 as the son of a bishop. In 1908, he completed his training at Sandhurst Military Academy. He served several years in India before heading to the trenches in France. In October 1914, Montgomery was badly wounded by a shot to the chest. Two years later he returned to the Western Front, and by the end of the war in 1918 he was a chief of staff. In 1938, Montgomery was promoted to major general and given command of British forces in Palestine. In July 1942, he was commanded by Churchill to lead the 8th Army in the Libyan desert.

In December 1943, Montgomery took command of all British troops in the planned invasion of mainland Europe. But it was not enough: the ambitious commander wanted to command both British and US troops. The US wanted its own man – Eisenhower – and Churchill had to accept. Montgomery questioned his tactical and strategic skills and was about to be fired. But Churchill promoted him to field marshal and appointed him commander of British occupation forces in Europe.

- Was known for his lack of tact and diplomacy.
- Accused Eisenhower of bad leadership during the war.



first problems arose as traffic congestion and confusion clogged up the narrow corridors. Some tanks had to halt and wait for mine clearance; others took a wrong turn and ended up in the minefields, while entire units of soldiers lost their bearings and got lost in a darkness made more impenetrable by the sand being whipped up by the many tanks.

GERMANS WERE FOOLED

Montgomery's plan was to drill through the northern part of the German minefield and then send most of his strength

Despite his great cunning, Erwin Rommel couldn't figure out where Allied forces would try to break through his defensive lines.



The British 8th Armoured Brigade helped turn the war in North Africa and had a red fox as its emblem.



through the hole. To mislead the enemy Montgomery launched an attack on the German armoured forces in the south near the Qattara Depression, while Australian troops also made a feint high up on the Mediterranean coast.

The tricks worked. The Germans and Italians didn't yet know where the attack would come from, and they were forced to disperse forces along the entire front. At the same time, the British continued their painstaking work in the minefield.

At dawn on 24th October a few British divisions had advanced through the minefield up to the enemy's forward

positions. Only a few were able to occupy the trenches, however, and most Britons had to dig into the sand to avoid becoming sitting ducks when daylight came.

ADVANCE CONTINUED INTO DAYLIGHT

Behind the British vanguard, chaos still reigned in the minefield corridors. The slow advance continued into the morning as clouds of dust from tanks and



Rommel needed new tactics

The Desert Fox was a master of the surprise attack on the enemy's flanks. The landscape at El Alamein prevented him from deploying this tactic, however. Instead Rommel chose to dig in and lay a wide minefield in front of his forces.

23RD OCTOBER

Allies numerically superior

445,000 German mines lay between Rommel's forces and Montgomery's army. Never had an armed European force been so well supported by artillery, however. At the same time, the British had nearly three times as many tanks as the Germans and Italians combined and almost twice as many men. Montgomery had the best hand.

1 Allied forces shell the Germans

800 British guns bombard the German artillery and infantry in their defensive trenches. Instead of spreading their fire, the Allied guns target specific positions each time.

EGYPT

MONTGOMERY'S 8TH ARMY

INFANTRY:	220,000
TANKS:	1,029
ANTI-TANK GUNS:	1,401
ARTILLERY GUNS:	900
PLANES:	530

ROMMEL'S AFRIKA CORPS

INFANTRY:	116,000
TANKS:	547
ANTI-TANK GUNS:	496
ARTILLERY GUNS:	0
PLANES:	350



MEDITERRANEAN

2 British sappers pave the way for tanks

British infantry clear narrow corridors through the German minefields. The minesweepers are fired upon – and are under great time pressure. The tanks can't move forward until they finish work.

Jernbane

Alexandria 100 km

Cairo 240 km

0 1 2 3 4 5 km



Allied forces

Axis forces

Timeline

24TH OCTOBER

Germans tricked

After a night **heavy bombing** German positions, the army moves forward.

1 Montgomery makes a feint to the south. 2 The Germans follow. 3 Australians deploy feint at the coast. 4 The Germans divert troops to the coastal area. 5 Montgomery attacks in the north, but can't break through.



26TH OCTOBER

Minefield penetrated

Despite holes in the German-Italian line of defence, the Allied victory is not yet in the bag.

1 Allied tanks and infantry break through the minefield. 2 German anti-tank guns make life difficult for the Allies. 3 German tanks help prevent the final victory. 4 Allied reinforcements arrive.



2ND NOVEMBER

Allies finally secure victory

Third time's the charm for the Allied forces.

1 Twice Montgomery fails with a frontal assault on German defences. 2 The third time he breaks through. 3 General Rommel must face the truth: the battle is lost. He gives orders for a full German withdrawal.





British photographer Len Chetwyn set fire to a mobile field kitchen to create smoke for these war scenes.



Press photographers staged photos

War reporters in North Africa often fell to enemy bullets. Therefore, they resorted to staging scenes that protected them from the hazards at the front.

The North African desert was the only front that the British fought on from 1940-42. It was therefore given massive coverage, particularly in British and Australian newspapers. Journalists and photographers flocked to the desert, and in the battle for good stories and great pictures many journalists fell to German bullets or artillery fire. The death toll led to British photographer Len Chetwyn and several others staging fighting in relative security far behind the front. Editors back in Fleet Street were enthusiastic about this evocative "reportage photography" and used them extensively in their papers.

explosions made visibility poor. A deafening roar from engines, shells and machine guns made it impossible for the troops to hear each other. Once again Allied soldiers and tank drivers became disoriented.

Despite the confusion, however, there was no doubt that the battle was only going one way – the Germans were being pushed back by the Allies. Hitler received reports that his army in North Africa was on its heels. The Führer ordered the

experienced, but weakened, Desert Fox back to the desert by plane via Italy and Crete in a last desperate act. Rommel arrived back on the battlefield during the evening of 25th October, but he was quickly forced to concede there appeared to be little hope.

BRITONS TOOK NO PRISONERS

On 26th October British tanks attacked Italian trenches deep behind the minefield. Several British units had received orders not to take prisoners. They must not waste time: the offensive couldn't afford to be delayed.

"The first trenches we came to were packed with Eyeties. We made short work of them, ran alongside their trenches and dropped in grenades, shouting: 'Eggs for breakfast, you bastards'. Then we went back, with one track on the edge, and gave them a quick burial", reported a British tank soldier.

Rommel now realised how the British aimed to break through his defences. German and Italian tanks counterattacked around the strategically important hills at Kidney Ridge, where fighting went back and forth. When the day was over, however, it was the Italians' tank strength that had been decimated – from 41 tanks to just two.

TANK PERSONNEL BURNED INSIDE

Often tank crews found themselves trapped and burned to death because their emergency exits were either deadlocked or blocked by sand. The soldiers outside could hear them screaming. Many cried for their mothers.

"Some of the tanks continued to advance even after they had been hit and set on fire, with only dead or dying men inside them, like huge self-propelled funeral pyres, a dead man's foot still pressing down on the accelerator", wrote a British officer.

Slowly the British pushed deeper and deeper into the Axis defensive line. On the evening of 28th October, Rommel wrote a letter to his wife, Lucia:

"Very heavy fighting! No one can imagine the fear hanging over me. Once again, everything is at stake. The circumstances we are in could not be worse. I am still hoping we can pull through".

MAJOR BREAKTHROUGH COST DEARLY

Rommel began to run out of supplies. Any tank, artillery, man or barrel of oil lost was one that couldn't be replaced. The Desert Fox's army grew weaker by the hour.

At 11.00 on 2nd November, Montgomery finally instituted the coup de grace. A total of 94 British tanks and 400 infantrymen fought their way through the defensive line, but it came at a high price. Only 19 tanks and 170 exhausted men managed to reach the top of the Tel el Aqqaqir ridge from where they could report news of Rommel's movements.

Rommel sent 60 tanks to close the hole, but British artillery and aircraft supported the small group of soldiers on the

ground. By sunset, the Germans had just 30 tanks remaining.

The field marshal had lost any final traces of hope. Again, he wrote to his wife:

"Hard days lie ahead... The dead are the lucky ones, for them it is all over... Our fate is in God's hand. Farewell to you and our lad".

The German commander realised that the entire Allied force would soon flow through the hole in his defensive line like water through a broken dam. Rommel chose to save what remained of his army and ordered a general retreat. Tens of thousands of Germans and Italians fled to the city of Fuka, 100 kilometres west of El Alamein. During their retreat, the Germans destroyed the only thing they hadn't run out of. The fire and smoke from more than 12,000 tonnes of ammunition gave the barren desert an apocalyptic look.

Instead of destroying Rommel's army, Montgomery followed carefully. He dared not risk losing the hard-earned



General Montgomery's 7th Armoured Division had a jerboa as its emblem.

and vital victory with another front-on battle with Rommel, who over the previous two years had been repeatedly shrewd enough to outflank the British.

Over the following year, Rommel was constantly in retreat. The final German-Italian forces in North Africa finished with a desperate battle with the British in Tunisia. 140,000 Italians and 100,000 Germans surrendered on 13th May, 1943. By that time, Rommel had long since flown back to Europe. Hitler had given the field marshal a new major task: preparing for the expected Allied invasion of mainland Europe.

The British never captured the Desert Fox, but the German-Italian adventure in North Africa was over. The Third Reich would never again be able to threaten oil reserves in the Arabian Peninsula.

Churchill wrote in his memoirs:

"It might almost be said: 'Before Alamein we never had a victory, after Alamein we never had a defeat'".

PERSPECTIVE

Rommel made Atlantic troops ready

After returning from the Egyptian desert, Hitler ordered Field Marshal Rommel to complete a massive European fortress project.

In November 1943 – after the German and Italian forces defeat and retreat from North Africa – Field Marshal Erwin Rommel took command of Hitler's gigantic fortress project on the European continent: the Atlantic Wall. Rommel's job was to make the defences ready for the expected Allied invasion.

Hitler had already ordered the creation of a "New West Wall" that would protect German-occupied Europe. Serious work continued on the fortifications until mid-1943, when the pace radically dropped because fierce fighting on the Eastern Front ate into the Germans' resources.

Rommel was shocked to discover the gaps and deficiencies in the Atlantic Wall, and extended it with thousands of new bunkers, guns, mines and anti-tank barriers.

"Desert Fox" Rommel (right) reviewed the Atlantic Coast fortifications and ordered thousands of improvements.



*A US Coast Guard drops a
depth charge on a suspected
submarine to protect an
Allied convoy.*



1943

1ST JUNE

ENEMY BOMBED FROM THE DEPTHS

Britain is on the brink of collapse. German submarines make great inroads in the convoys that supply the island nation with essential supplies. But when everything looks hopeless, British engineers are ready with new and effective weapons.



THE STAGE IS SET



Hitler plans to cripple Britain by isolating the country. The solution lies with U-boats, which are assembled in so-called "wolf packs" that attack merchant ships and their escorts without delay. The tactic seems to succeed. If Britain continues to be starved in the short term, it will be forced to pull out of the war.



AT 09.30 ON THE MORNING OF 1ST JUNE, 1943 the alarm aboard the British warship *Starling* sounded. The vessel had in recent days followed a convoy of cargo ships across the North Atlantic south of Iceland. But now *Starling's* surveillance equipment had intercepted a German submarine radio transmission about 30 kilometres away. The entire 92-metre-long warship, which was especially designed for submarine hunting, shook when Captain John Walker ordered "full speed ahead". Five other warships followed in *Starling's* wake, heading for the submarine's position – the Germans must not escape.

When Walker and his ships arrived, the submarine dived, hiding from its pursuers. But the British were not going to let their prey escape. *Starling's* sensitive sonar began to scour the depths with sound waves, and after a few minutes the expected echo sounded. The U-boat had been found.

Flanked by a warship on each side *Starling* scanned the area, while every five seconds all three ships dropped depth charges from above as well as 50 metres out to each side. Behind the ships the sea boiled with underwater explosions. But the submarine's captain dived deeper than expected. On the sonar the pursuers could see that the U-boat – was still moving around. Walker, however, had time on his side. Whenever the sonar located the sub, his ship sought it out immediately and dropped more depth charges. The captain knew full well that the submarine was probably able to dodge the bombs. But by continuing their attack the German captain had no chance to escape the area, and the U-boat would eventually be forced to come to the surface for air. He was right. Two minutes past midnight *Starling's* lookout spotted the submarine's periscope at sea level. A star shell was sent up to illuminate the area, and immediately after the ship's

guns fired volley after volley into the submarine. From the bridge Walker watched the sinking U-boat's crew swarm on deck and throw themselves into the water. The fight was over.

The sinking of *U-202* would prove to be a turning point in the protracted struggle in the Atlantic Ocean. According to

12 weeks

was the typical length for each U-boat's assignment. The submarine then returned to base to be resupplied while the crew took leave.

the Royal Navy's monthly bulletin the attack was "a perfect example of locating, hunting and destroying a U-boat".

The truth was that John Walker and his second support group – comprising six warships – hadn't been sent out simply to escort convoys like so many other naval vessels. The Group's primary objective was offensive: to track down and sink German U-boats, wherever they were. The tactic was

brand new and testified that the Battle of the Atlantic was no longer just about defending themselves adequately against the threat from the depths. From now on Hitler's Grey Wolves were the hunted.

BRITISH UNDERESTIMATED THE ENEMY

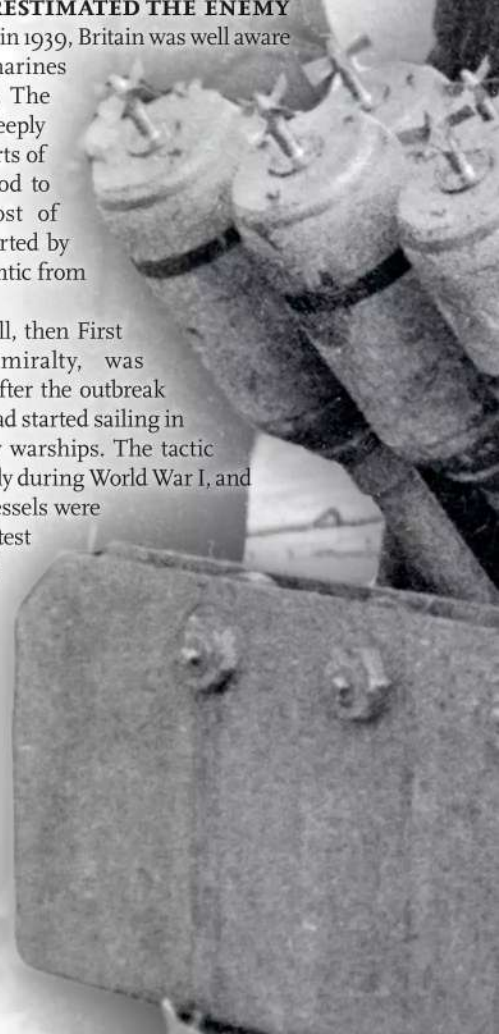
When war broke out in 1939, Britain was well aware that German submarines would be a threat. The island nation was deeply dependent on imports of everything from food to war materials, most of which were transported by ship across the Atlantic from the United States.

Winston Churchill, then First Lord of the Admiralty, was confident. Shortly after the outbreak of war cargo ships had started sailing in convoys escorted by warships. The tactic had worked brilliantly during World War I, and now British naval vessels were equipped with the latest technology: sonar, known as ASDIC.

"Our faithful ASDIC detector", as Churchill affectionately referred to the equipment with sound waves that could detect U-boats



This medal was awarded to seamen who served in the US merchant fleet.



*"Hedgehog" was the
nickname sailors gave to a
weapon that fired a salvo of
shells over a wide area, so
the U-boat couldn't escape.*



During the war the Allies developed radar to detect submarines at sea level.

the ocean. Churchill's optimism would soon be eroded, however. German U-boats had already sunk a handful of Allied ships during the first week of the war. The submarines assembled in so-called "wolf packs" that attacked the vulnerable convoys in groups to inflict massive losses. Wolf packs were found to be extremely effective, as German captains mastered the technique. From July to October 1940 submarines sank over 100 ships. Among the hardest hit was a convoy from Canada, which lost 20 of its 34 ships.

For the British losses were a disaster and if things continued this way Hitler would soon strangle Britain's supply lines.

SUBMARINES CHEATED SONAR

Frustratingly for the British, the sonar equipment in which Churchill had put his trust rarely detected the lurking subs. The reason was that sonar was intended to find submerged submarines. The Germans preferred, however, to fire torpedoes as they lay on the sea's surface well away from Allied cargo ships. In those cases, British sailors could only rely on binoculars, and a submarine's periscope was hard to spot among the Atlantic waves – especially in the dark.

Often the bright stripe from a torpedo at sea level was the first sign that – too late – warned of an attack. At night, when most attacks took place, convoys were virtually defenceless. The bravest submariners such as Otto Kretschmer began to sneak into the middle of convoys and fire torpedoes at close range. The situation gave ships no way out. It was also difficult to locate enemy submarines, because the attacker could be hiding directly under an Allied ship.

During an attack on a convoy in March 1941, Kretschmer sank five vessels within minutes. Escort vessels immediately began to explore the sea around the convoy, in the belief that the submarine was about. In reality, though, it was hopeless attempting to find out where the attack had come from.

"The U-boat might have fired from any point of the compass or it might be right in amongst the convoy columns", recalled Royal Navy captain Donald Macintyre, who like John Walker would become one of the war's most successful submarine hunters.

NEW TECHNOLOGY CHANGED THE GAME

The British quickly realised that sonar was not enough on its own to warn of a German U-boat's surface attack. During the autumn of 1940 British engineers developed a simple ship's radar that could detect a submarine periscope at the water's surface over several kilometres. Unlike sonar, where the sound waves could clearly be heard by the submarines, the radar was silent and allowed ships to spring surprise attacks.

By early 1941 the radar had proved its worth. On 25th February five U-boats attacked a convoy whose escort included two warships equipped with the new weapon. What



Crews on the escort ships of the destroyer kept a lookout for the tell-tale periscope.

the British didn't know was that two of Germany's top U-boat commanders, Otto Kretschmer and Günther Prien, had taken part in the attack.

Again and again the subs nearest the convoy were found and forced to dive – after which followed a relentless pursuit. Within a few hours the Allies managed to sink the *U-70* using depth charges. Prien's *U-47* was also hunted relentlessly and sank during the night with all on board.

Kretschmer managed to sink a freighter with his submarine, *U-99*, before he, too, had to give up. Two weeks later, *U-99* was surprised by two British warships shortly after an attack on another convoy. The ships seemed to know where the submarine was and dropped scores of depth charges.

"All the instruments were destroyed. There was no light any more – only small flashlights", said one of Kretschmer's men, Volkmar König, after the war. "We continued down to this

unbelievable depth, and I said to myself, 'A second more, and there's one big crack, and we are pressed together like an empty tin can'".

Acoustic
torpedoes were developed by the German Navy. The torpedoes sought out loud noises from ships. But the torpedoes often failed.

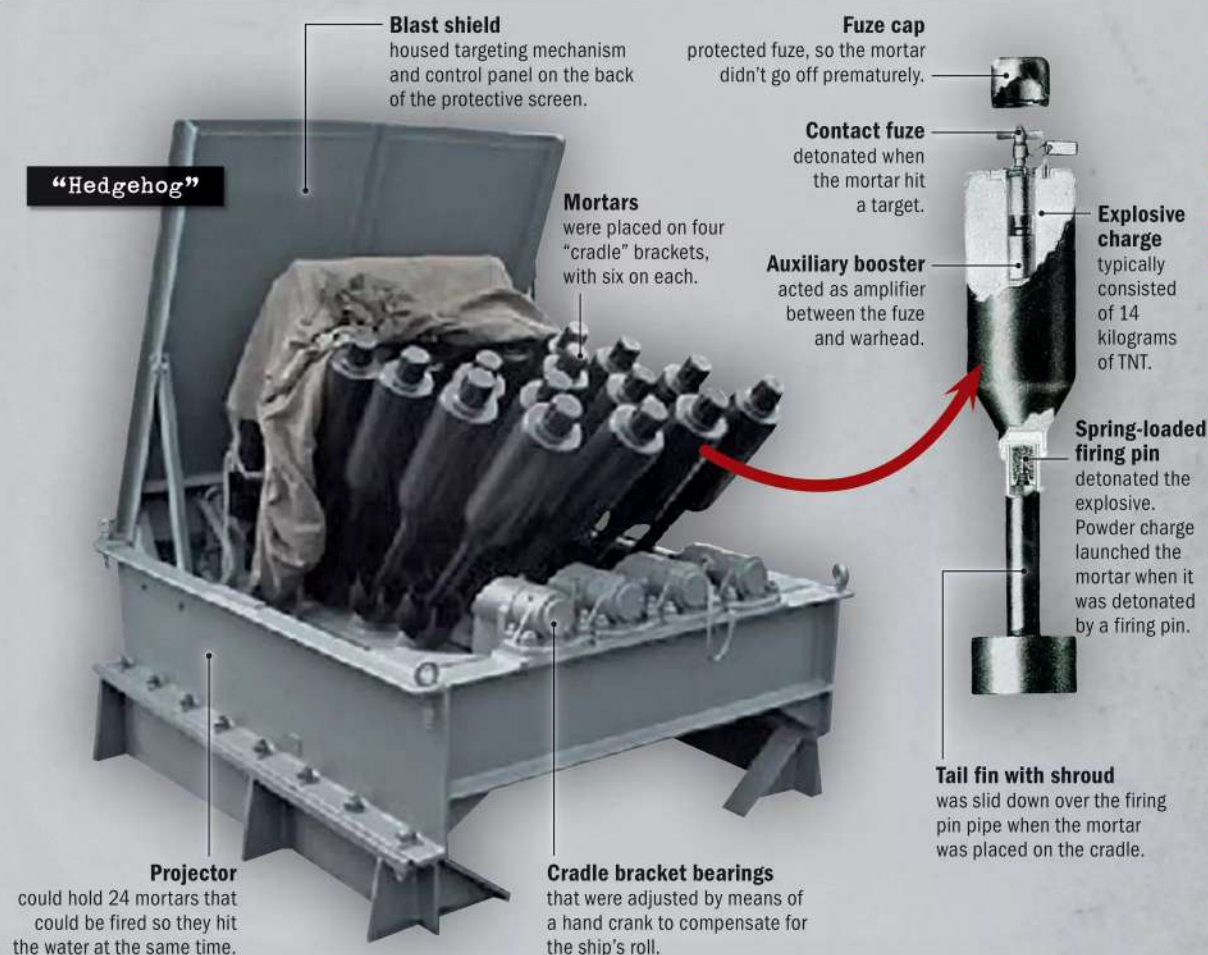
Amazingly, the *U-99* was not destroyed. The submarine submerged to a depth of 210 metres, after which it successfully blew enough air through its tanks to rise to the surface again. The submarine, however, was lost, and Kretschmer had to surrender. The victory demonstrated to the Brits that even the Germans' best submarine captains could be sidelined.

In December 1941, Captain John Walker won another victory. He and his escort group of six warships sank four German submarines that had attacked a convoy, proving that even submarine wolf packs could be defeated.

The loss of the two top submariners was a hard blow for the Germans, who in 1942 faced both the British and US Navy after the United States entered the war after the

Submarines were hit by mortar salvo

Allied ships installed the hedgehog in 1942 – a mortar that could fire a volley of 24 small depth charges in a wide arc to a depth 250 metres in front of the ship to hit submerged submarines.



attack on Pearl Harbor. On the other hand, U-boat numbers swelled during the first half of 1942 to almost 350 – about 10 times as many as at the outbreak of war.

Consequently, the many ships that were thrown into battle on both sides in 1942 made it the bloodiest year of the Battle of the Atlantic. During the course of 1942 submarines attacked convoys and sank or damaged more than 1,300 Allied ships – nearly three times as many as the year before.

The Allies had a surprise for the Germans, however. Secretly, engineers had designed radar small enough to be mounted in a bomber. With radar, planes were suddenly able

118 German

diesel-electric subs, dubbed "Elektroboot", were built. This type of U-boat was designed to remain primarily submerged, but arrived too late to affect the war.

to find submarines at sea in darkness. One of the first submarines to experience the new technique was U-159, which during the night of 13th July was suddenly in the spotlight.

"A plane was coming towards us at a right angle... I turned sharply, but he dropped his three depth charges next to the boat – they were pretty close", recalled Captain Helmut Witte later.

That night, two other submarines were attacked in a similar way. When the Germans discovered how, they installed a so-called Metox receiver on submarines. The device could intercept radar signal and thus give the submarines time to dive. A few months later the British were



Survivors from the U-550 jumped in the water after the German U-boat was hit by depth charges. Few survived the attacks.

ready with a new version of air radar that the German Metox receivers couldn't detect. As a consequence, Allied aircraft became the submarine's most feared enemy.

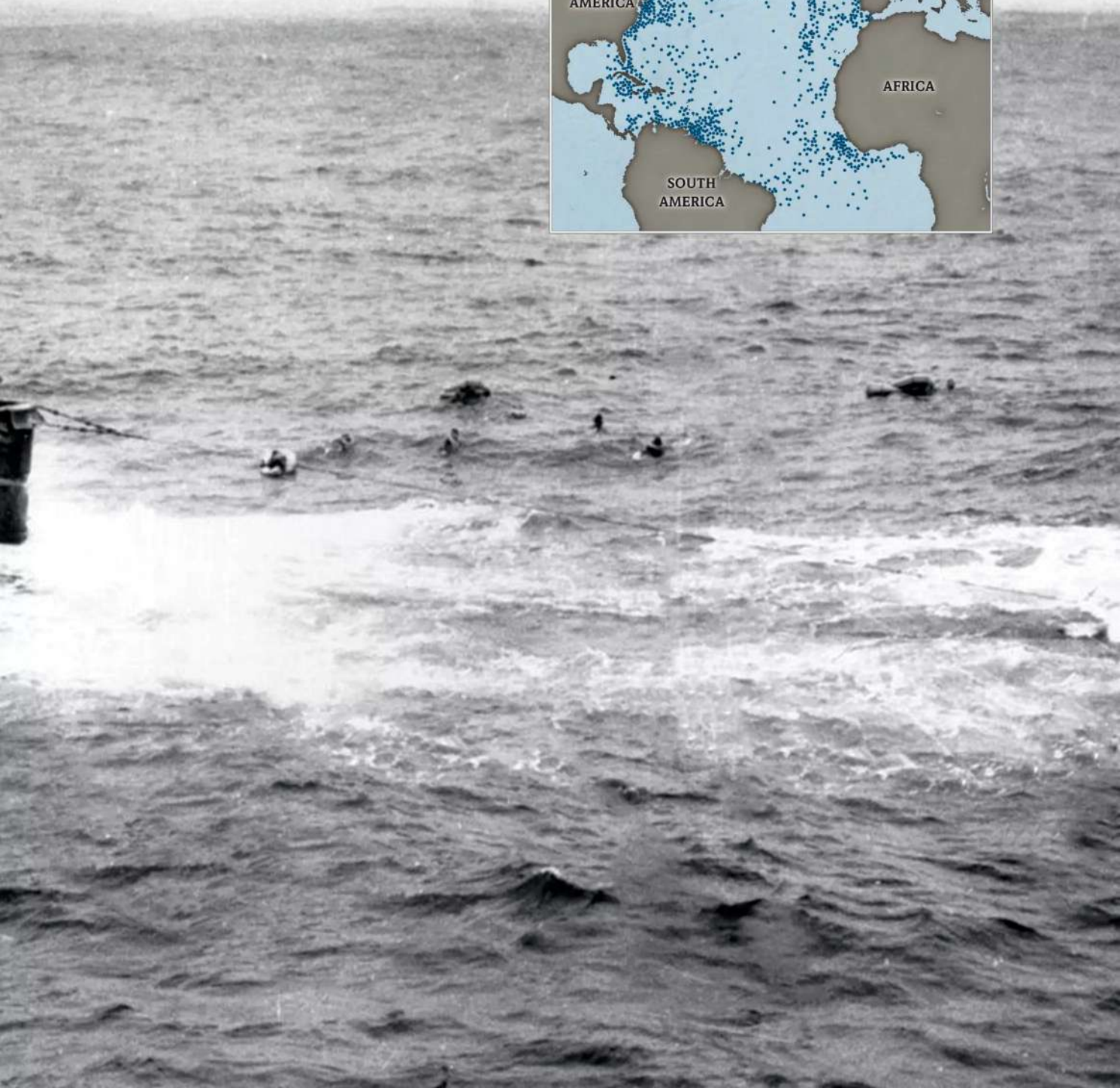
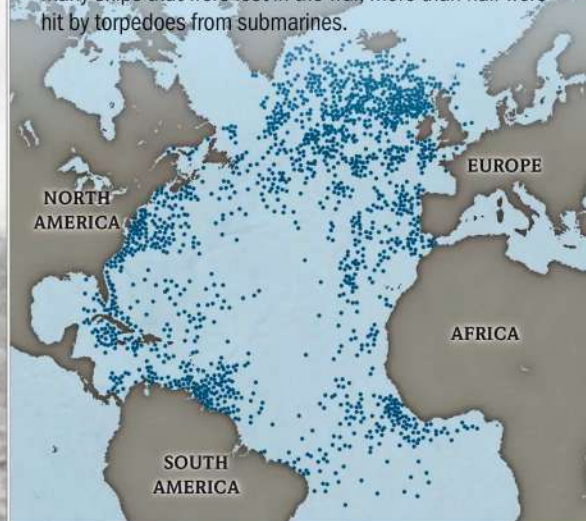
THE ALLIES TOOK THE OFFENSIVE

After disastrous losses in 1942 the Allies decided to prioritise on the U-boat threat. Now the Grey Wolves would be crushed once and for all. In early 1943, 5,000 naval officers were trained in anti-submarine tactics. At the same time, specially selected warships assembled in flotillas – while they had responsibility for a specific convoy, they were free to hunt submarines wherever they could be found.

The training yielded fast results. A key event occurred on 4th May, 1943, when a convoy of 40 cargo

Atlantic was ships' graveyard

From 1939 to 1945 German U-boats sank several thousand Allied cargo ships crossing the Atlantic. Of the many ships that were lost in the war, more than half were hit by torpedoes from submarines.





NAME

FREDERICK JOHN WALKER

TITLE

CAPTAIN AND SUBMARINE HUNTER

Brit was German U-boat nemesis

In 1939, British naval officer John Walker considered retiring. But when the war broke out, his specialised training as a submarine hunter was needed and he rose quickly through the ranks.

Walker sank more enemy submarines than any other Allied captain. After a successful hunt he liked to play the tune "A Hunting We Will Go" over the ship's public-address system.

- Was nicknamed Johnnie Walker.
- Died from a stroke.



1896-1944

Germans lost eight submarines during the raid on the convoy. Each lost U-boat meant the irreplaceable loss of experienced crews. Experience was crucial in the submarine war. Statistics show, for example, that three quarters of German submarines never managed to sink a single ship.

As May drew to a climax, the Germans had lost 41 submarines, but only sunk 50 freighters. In desperation Grand Admiral Dönitz ordered the majority of U-boats away from the North Atlantic. The Allies had the upper hand.

SUBMARINE HUNTERS WANTED REVENGE

Superiority was immediately utilised. In addition to traditional depth charges, the Allies also had a new weapon available: the so-called hedgehog. The hedgehog consisted of 24 mortars fired in a salvo into the sea using a special firing mechanism. The shells could generate a network of explosions the submarines had difficulty avoiding.

At the same time Walker developed a new hunting technique: his ships identified one submarine's position using sonar. The ship was so far away that the submarine did not consider it a danger. But by using radio the ship led two other ships at such a low speed that the submarine could not hear them. When the ships were directly above the submarine, they dropped depth charges on the unsuspecting enemy; there was no chance for escape.

Walker's tactics were used with great success: in 1943 the Allies sank nearly 250 German U-boats. In an order to his officers Walker left no doubt about their primary objective:

"Our object is to kill... No matter how many convoys we may shepherd through in safety, we shall have failed unless we slaughter U-boats".

ships sailed south of Iceland. Here up to 50 German submarines waited and their order from headquarters was clear: "Fight with everything you have! Destroy them!"

The submarines followed the order: seven ships were sunk that night. But the next day something unexpected happened. A dense fog enveloped the convoy ships and visibility was approaching zero. Now the Allies ships had the advantage – several were equipped with so-called HF/DF sets that could identify a submarine's position from its radio.

Suddenly the roles were reversed, and five submarines were sunk in a matter of hours. In total, the

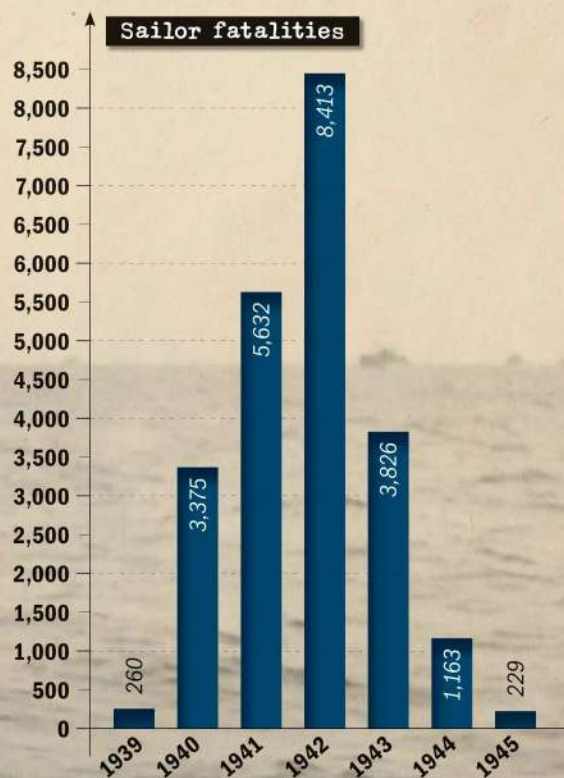
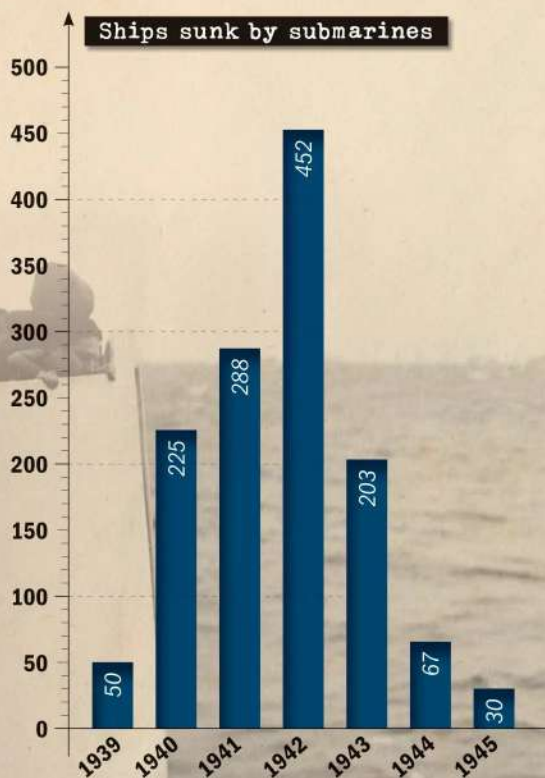
A depth charge ready to be dropped from Canadian destroyer HMCS Saguenay.



British suffered heavy losses

In 1940 British ships constituted about one third of the total merchant fleet in the world and British ships were a popular target for German U-boats. A total of 1,315 British merchant ships were sunk by German submarines during the war, and 22,898 crew members perished.

Loss of British ships and crew



Wireless operator Julius Petrella was buried at sea after being hit during a battle with a German submarine.

*Watchtowers and
barbed wire
surrounded the POW
camp, which was
considered Germany's
most secure.*



1944

24TH MARCH

PRISONERS DIG TO FREEDOM

Life in German POW camps is a tedious affair, and the inmates dream of escape. The camps are tightly guarded, yet the prisoners in Stalag Luft III are still ready to bid for freedom. Unfortunately, a single miscalculation will have fatal consequences.



THE STAGE IS SET



During the war, thousands of Allied pilots shot down over German-occupied countries are interned in Nazi camps. A large group of prisoners in Stalag Luft III decide to escape. They plan to reach freedom through three tunnels, but the work involved is a huge project, and the guards must be prevented from discovering their plan.



RAF PILOT IAN CROSS CREPT UNDER THE TRUCK. The British prisoner knew he had to remain completely silent: if the German guards above spotted him, he would be doomed. Cross grabbed hold of the undercarriage. If he could just hold on, the truck would drive him out of the prison camp Stalag Luft III to freedom.

At that moment, German prison officer Oberfeldwebel Hermann Glemnitz strode over to the vehicle. He leaned in to the driver. Cross couldn't hear what they said, but suddenly the truck roared off across a patch of ground full of tree stumps.

A group of prisoners held their breath as they anxiously watched the truck. They knew that Cross was in danger of being crushed against the stumps. The truck slowed. Glemnitz walked over and peered under it: "You can come out now, Mr Cross. We have your room ready in the cooler". Cross was subsequently pulled out from his hiding place and dragged away by German guards to solitary confinement.

"You see how bloody careful we've got to be", noted one of the prisoners who'd followed the drama from a distance. He was a broad-shouldered man with ice-blue eyes, one slightly damaged in a skiing accident. His fellow inmates listened intently, as they always did when the man with the scar spoke.

His name was Roger Bushell, and he had an idea for an unprecedented – and daring – mass escape from Stalag Luft III, the Germans' most secure camp for prisoners of war.

Bushell had already been involved in some adventurous escape attempts even before his arrival at the Stalag camp in

the autumn of 1942. The 32-year-old squadron leader in the RAF had been shot down over France two years earlier and had already escaped twice from other camps.

Bushell believed that prisoners of war were living on borrowed time – and that "the only reason that God allowed us this extra ration of life is so we can make life hell for the Hun".

At his first camp, Bushell had escaped via a goat shed in the prison's exercise field (outside the camp) after having dug a shallow hole to hide in later before escaping under cover of darkness. He managed to reach the border with Switzerland before he was recaptured and transferred to a new camp.

Here he organised the digging of a tunnel, but before it was finished he was moved to a third camp via train. He managed to cut a hole in the cattle wagon's floor and drop out in Hanover. This time he got as far as Prague before the Germans caught up with him.

There was an air of expectation when Bushell was led into Stalag Luft III in October, 1942. The camp housed POWs from the Allied air forces. And if one feeling united the hundreds of downed pilots across many countries, it was a burning desire to escape, get home and fly sorties again.

Many had already tried, but so far they'd lacked organisational talent and an ability to gather a large group together without being detected.


PLANS TOOK SHAPE

Shortly after his arrival Bushell called together a small group for a first meeting.

"We're going to get cracking on schemes now", he said, explaining how a guard had revealed to him they were being moved to a newly built section of the camp in March. In spring, the soil would be soft enough to easily dig, so both the season and the commotion surrounding the move would represent an unique opportunity for escape.

"My idea is to dig three major tunnels simultaneously and get about five hundred men on the job. The Goons might find a couple of them but we ought to make it with at least one. What d'you think?"

The men looked at each other and immediately began to discuss how to organise the escape. The discussion lasted for



ROGER BUSHELL

NAME


TITLE ROYAL AIR FORCE OFFICER

Athlete masterminded the escape

Roger Bushell was a man of many talents, but his biggest dream was to fly, and he rose to Squadron Leader in the RAF. Bushell's Spitfire was badly damaged over France in 1940, forcing him to crash land near Calais where he was captured. He masterminded the escape from Stalag Luft III and travelled in disguise by train to Saarbrücken near the French border. Sadly, he was spotted at the station and immediately arrested.

- World-class skier.
- Was executed by the Gestapo.

1910-1944



two hours before reaching a decision: the prisoners would dig three tunnels. They'd have to accommodate an underground workshop and a DIY rail track to move the earth. In addition, the inmates would need to forge several hundred passports, sew civilian clothes and procure compasses and maps. Finally, the prisoners would need to set up their own intelligence service to infiltrate the camp staff and gain insight into schedules and security systems.

GROUP CAPTAIN MADE THE WHOLE CAMP COMPLICIT

Bushell next sought out the prisoner with the highest rank, Group Captain Herbert Massey. The group captain listened as he rested his injured legs on his bunk.

"Look, Bushell," he advised. "You've been out twice now and nearly made it. The Gestapo think you're a saboteur and would be happy to get something more on you. Lie low for a while and leave it to the others. I don't want you getting a bullet in the back of the head".

"They're not catching me this time", Bushell responded confidently. Massey eyed him sceptically: "Well for God's sake be careful. I think you'd better keep in the background as much as you can and try and look like a reformed character. Stick to the brains part of it". As Bushell left the room, the group captain – despite his concerns – gave him a promise: the whole camp would be behind the daring plan.

The prisoners knew the plan was virtually impossible. Stalag Luft III had a reputation for being the most tightly

guarded camp for POWs in Germany – some Nazis even dubbed it "escape proof". The camp was surrounded by pine forest, but the Germans had felled a wide perimeter so even if the prisoners succeeded in climbing the fence, they had no place to hide. Several additional barbed wire fences surrounded the camp and towers with armed guards watched over all, as powerful searchlights swept across the area during the night.

To prevent escape tunnels being dug, the Germans placed most of the camp far from the barbed wire fence. Some huts were

even placed on 60-centimetre stilts, so the prisoners could not dig themselves out. In addition, microphones had been hidden in the ground to detect sounds beneath the surface.

Bushell was still confident he could fool the Germans. The tunnels would be dug so deep neither guards nor microphones would detect anything. Nine

metres should be enough, he said. In addition, the tunnels would be so long they'd reach into the woods.

The three planned tunnels were codenamed Tom, Dick and Harry. "They're all to be known by their names,



Inmates wore small metal badges that indicated which prison camp they belonged to.

Prisoners didn't have to work and had plenty of time to plan various escape attempts.



Stalag Luft III was 160 kilometres south-east of Berlin. The camp was reserved for Allied pilots and was operated by the Luftwaffe.



and by their names only", Bushell stated firmly. "If any bastard in this camp ever utters the word carelessly I'll have him court-martialed".

Bushell then appointed Flight Lieutenant Arnost "Wally" Valenta, a Czech-born RAF pilot, to lead the prisoners' intelligence. Valenta began to marshal those prisoners who could speak German, instructing them to build a close relationship with the guards. Their aim was to gather information about the camp and find Germans who could be bribed to provide tools and materials.

Alongside their intelligence work, Bushell also singled out prisoners with specialised skills. Many had previously worked as tailors, miners, cartographers, engineers and mechanics.

ENTRANCE WAS TUCKED UNDER THE STOVE

Flight Lieutenant Robert Ker-Ramsay was bent over the wood-burning stove in room 23 of Hut 104. It was here that Bushell had decided to place the secret hatch to the tunnel Harry. The

The escape

committee gave each other code names: Bushell was "Big X", while each hut had its own "Small X" and "Small S". The latter was in charge of security.

hut had been carefully selected because it had been built on a foundation of concrete tiles, which could hide the entrance to the tunnel.

The powerful Ker-Ramsay first lifted the stove before beginning to loosen the tiles on which it had been sat. He fastened them to a wooden frame that the prisoners had made in advance. The removable hatch was designed to resemble the old floor under the stove.

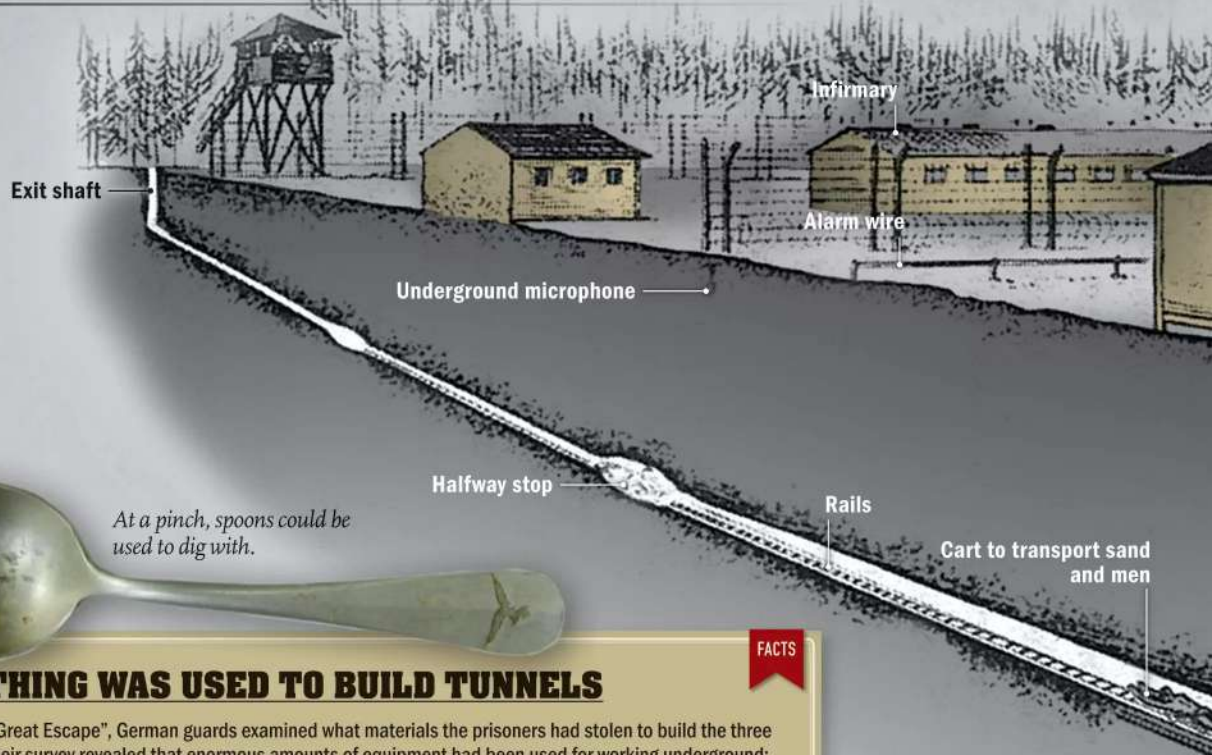
Next, Ker-Ramsay began to strike a homemade hoe against the concrete foundations. The noise echoed throughout the camp. If the guards discovered where the noise was coming from, the game would be up.

Bushell quickly ordered half a dozen prisoners to stand outside the hut. Here they began to hammer on tin while pretending to make innocent household items like plates and dishes. The prisoners kept this up for several days until

ESCAPE ROUTE

Tunnel had its own railway

Prisoners worked for a year to finish Harry. The 106-metre-long tunnel ran 7-9 metres under barbed-wire fences, alarms and microphones. Prisoners stole or donated all the materials used.



At a pinch, spoons could be used to dig with.

ANYTHING WAS USED TO BUILD TUNNELS

After the "Great Escape", German guards examined what materials the prisoners had stolen to build the three tunnels. Their survey revealed that enormous amounts of equipment had been used for working underground:

- | | | | |
|--------------------|-----------------------|---------------------|-------------------------------|
| ■ 90 bunk beds | ■ 52 20-man tables | ■ 1,219 knives | ■ 30 buckets |
| ■ 4,000 bed boards | ■ 10 small tables | ■ 478 spoons | ■ 300 metres of fence |
| ■ 635 mattresses | ■ 34 chairs | ■ 582 forks | ■ 180 metres of rope |
| ■ 192 bedspreads | ■ 76 benches | ■ 69 lamps | ■ 3,424 towels |
| ■ 161 pillowcases | ■ 1,212 large pillows | ■ 246 watering cans | ■ 1,400 tins of powdered milk |

FACTS

Ker-Ramsay had knocked through the foundations. The opening for Harry was now ready, just as the other two tunnel entrances had also been completed.

Once the excavation work had begun, the next problem quickly arose. Stalag had been built on the yellow sand of Silesia, which wasn't only difficult to dig, but also proved hard to dispose of without the guards noticing.

Bushell convened his closest people to come up with a solution. One took to the floor: "You ought to be able to camouflage it", Lieutenant Commander Peter Fanshawe said, suggesting the prisoners dig small gardens outside their huts where the yellow sand would naturally appear.

"But how are you going to spread the yellow stuff without being spotted?" Bushell asked.

"With trouser bags", Fanshawe replied, pulling a strange piece of cloth out of his pocket: two cut legs from a pair of long johns,



The excavated sand was smuggled out in trousers and dumped in small gardens.



He tied together in the middle. The group looked sceptical. Fanshawe explained how he could open the bags with a pulley driven from his trouser pocket. The bags would be filled with sand and stored in a prisoner's leg. He'd then go to the freshly dug garden, pull the string and quietly let the sand run out of the trouser bag.

"By God, we try it immediately", Bushell exclaimed.

"I have already", was Fanshawe's reply. "It works".

150 prisoners were designated as sand carriers – or "penguins" after the waddling gait caused by the trouser bags.

TUNNEL WAS SECONDS FROM BEING DISCOVERED

A group of penguins were in the process of carrying sand from the tunnel Tom in Hut 123 when a camp guard suddenly appeared. A prisoner on guard gave a sign to his comrades, but the German – known as "The Keen Type" – was marching directly towards the hut entrance. The "trapführer" – the prisoner in charge of the tunnel entrance – would have no chance of sweeping away the sand and closing the hatch.

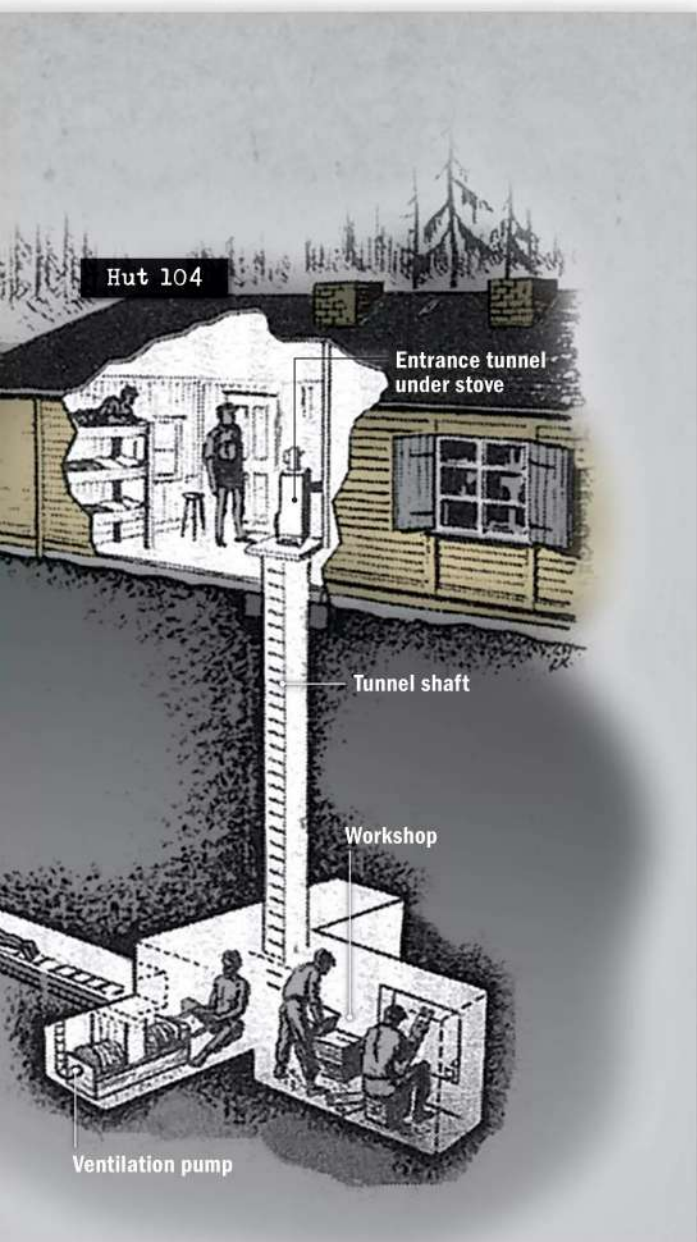
The Keen Type entered the room next to the tunnel opening – a mere three steps from the alcove where the prisoners were frantically struggling to put the hatch on. Without warning, a door opened and out stormed prisoner George Harsh with angry shouts behind him. He bowled directly into the guard so both fell on the floor. The Keen Type attempted to rise, but Harsh lay heavily on top of him, panting. Several men followed and gathered around, helping both to their feet. The prisoner gabbled a long, confused explanation in English. The guard was left too confused to be angry. His head shaking he looked around and walked out with a cold smile.

"Thanks, George, it was nicely timed", whispered the hatch manager to his unconventional saviour.

The excavation proceeded slowly. The long tunnels through the sand were reinforced with wood taken from the base of prisoners' beds. Inside the tunnels the prisoners laid homemade rails, where small trolleys could carry the sand from the diggers to the entrance to the tunnels.

The trolley wheels were constructed from three wooden discs. The wheel axles consisted of metal parts taken from the huts' stoves and greased with margarine taken from the rations. Norwegian RAF pilot Jens Müller designed a fan that ensured miners received fresh air blown into the tunnel. But despite the technological innovations, the prisoners were constantly in fear of the sand collapsing over them.

One day, as three prisoners worked in Dick, they heard a creaking sound from above. One of the prisoners spotted a cracked bed board among the tunnel shaft's



struts, where the sand was now trickling down. The men crawled as fast as they could to get away, but with a big bang the strut gave, and sand poured in from above. The two front men managed to get out of the shaft while the third – Wally Floody – narrowly avoided being buried alive as his companions pulled him out just in the time.

Back at ground level Floody recounted the accident. Bushell listened before asking: “How soon can you start digging it out?”

PRISONERS GATHERED INFORMATION

One danger even greater than sand was the presence of the guards. Valenta, head of prisoner intelligence, placed a man on each guard to extract information such as planned security measures and train timetables from the nearest towns.

A key target was The Keen Type, the guard who'd almost discovered Tom. German-speaking prisoner Axel Zillessen began chatting with him over a cigarette and biscuit. They spoke about both the war and everyday life.

“We’re not going to be enemies forever”, Zillessen told The Keen Type. “Start regarding us as friends now”. Soon the prisoners noticed how The Keen Type became more and more careless of his duties, preferring to spend his time with Zillessen.

Bushell deleted The Keen Type from the danger list. Gradually, the prisoners gleaned information about the roads and woods around the camp, precise timetables for trains and a good insight into the situation in German-occupied Europe.

Discipline remained high among the prisoners – and new inmates were quickly schooled to ignore whatever ridiculous sights they might see: “It’s like this”, one was told. “If you see me walking around with a tree trunk sticking out of my arse, don’t stare. I’ll be doing it for a good cause”.

One day, Bushell met with the other senior prisoner officers. Group Captain Massey had heard that all American prisoners were to be moved to another section where they’d not be able to get to the tunnels. The news came as a shock to the Americans who’d made a huge contribution to the excavation and aimed to escape.

“I... think it should be about two months”, Massey said. “What about it, Bushell?”

“The obvious thing, Sir, is to concentrate on one tunnel for the time being”, replied the man with the scar. “Tom’ is the most advanced. We’ll go flat out on it. We can do it if we’re lucky”.

By the summer of 1943, the world could see the war was turning. The Axis powers faced difficulties on all fronts. But in Stalag Luft III, everyday life was focused on a single thing:

Old tins of powdered milk were used to construct the air vents.



The tunnel became so long that the men couldn't work it in without ventilation. The problem was solved with an air duct made from cans, which were taped together and insulated with wax. Helpers could then pump fresh air into the tunnel through the cans.

Tom must be finished before the Americans were moved. The accelerated work pace meant, however, that the prisoners had to compromise on safety. One evening, a penguin deposited his sand near a group of prisoners playing volleyball. Close by the jail guard commander, Hermann Glemnitz, was prowling. The penguin spotted him and hurriedly flattened the sand, hoping he'd not been seen. But he had.

The following morning, the guards stormed into camp. The Germans turned over the prisoners' gardens before disappearing again. Bushell immediately convened the escape committee.

"Glemnitz knows there's a tunnel", he noted.

"You can't stop", one of the prisoners argued.

"I don't want to stop it", Bushell replied, believing to do so would be just as suspicious. "There ought to be about enough penguin traffic to make it look natural". At all costs, Glemnitz had to be prevented from learning the scale of the operation – that the prisoners were digging three tunnels, and that 500-600 had gradually become involved.

Unsurprisingly, the number of searches increased dramatically. Glemnitz sent streams of guards to dig around the camp and turn over the huts. The Gestapo also began to sniff around – all without finding anything.

It appeared that disaster had been averted, but Bushell knew a single mistake could bring the whole scheme crashing down.

NEW CAMP COMPOUND GOT IN THE WAY

Soon after, the prisoners resumed work on Tom, which had now reached a length of 79 metres (around 260 feet). There were only two weeks until the Americans were moved, but now Bushell estimated the tunnel was clear of the fence and search lights if not under the wood. He decided the prisoners should now start to dig up.

A few days before the move, Glemnitz led another search – this time to hut 123, which housed Tom's entrance. Bushell stood outside and watched impassively as the guards looked inside. After two hours, nervous tension was spreading through the camp at the thought many months of work might be wasted.

Then the prisoners heard a triumphant shout from inside the hut. Glemnitz strutted out with a triumphant smile: Tom had been revealed.

After its discovery, the Germans blew up Tom and hope dissipated into the autumn air. Some prisoners had previously dug escape tunnels, but none had enjoyed the same potential as Tom. Although Bushell felt miserable, he tried to keep spirits up during a meeting in the camp's theatre.

"We've still got two up our sleeves", he told his companions, referring to Dick and Harry.

But with winter upon them, Bushell decided to wait until after New Year before continuing work. Until then, they were left praying that Dick and Harry remained stable. Meanwhile, the Americans were moved and the Germans began felling more trees outside the camp. It

quickly became apparent they were building a new compound – right where Dick was supposed to come up. Another tunnel had been rendered useless, because it would be impossible to extend Dick under the new camp area.

Only Harry was left. The snow began to fall, and the prisoners felt desperation growing. Out in Europe, the German armies were increasingly being squeezed by Allied forces, but in Stalag Luft III the prisoners noticed no change.

Some were driven to desperate acts. One night a prisoner ran on to a roof – and was mowed down by German machine guns. Another threw himself on to the barbed wire fence, and with blood running from his hands, was shot by the guards.



Wings from a US plane – many nationalities took part in the digging work.

UNIQUE OPPORTUNITY

On 7th January, 1944 Bushell convened another meeting of the escape committee. The time had come to resume work on the final tunnel.

"If we can finish Harry in a couple of months while the Goons aren't expecting it, we can seal it again and break as soon as the weather's right", he promised.

The prisoners around him were sceptical. But once they found a new place to store the excess sand – underneath the camp theatre – the digging began again.

Every day Harry grew longer – despite frequent searches. And morale was boosted further when the prisoners heard that one of the most zealous guards – nicknamed Rubberneck for his long neck – was on leave for 14 days from 1st March.

The day before his departure, Rubberneck marched into camp with 30 guards. The Germans chanted the names of 19 prisoners suspected of being involved in plans for escape – but Bushell's name was not among them. For a moment, the prisoners feared that Harry had been discovered, but instead the 19 prisoners were simply to be transferred to another camp.

After Rubberneck had gone, the prisoners began to dig like mad. After 10 days, Ker-Ramsay crawled through the tunnel with a tape measure. Harry now extended 106 metres – four metres further than the estimated distance to the forest. Ker-Ramsay crawled out the tiled hatch with a sense of



The entrance to the tunnel Tom was hidden under a heavy stove. A German guard posed in the hole after its discovery.



Allied POWs had it relatively easy – partly thanks to packages from the International Red Cross, which were distributed through neutral Switzerland.

unreality. In one year, the men had done the impossible. Ker-Ramsay told Bushell that the prisoners simply had to dig straight up around seven metres – and then they'd be free.

"Barring the unforeseen, I'll guarantee it before Rubberneck gets back", he said.

Digging straight up was difficult and dangerous. The sand rained down around Ker-Ramsay's ears, but he managed to stabilise the tunnel and build a ladder. On the 14th day, Harry was ready. Only a thin layer of turf remained to be removed.

MOONLESS NIGHT OFFERED BIG OPPORTUNITY

The following morning, Rubberneck returned from leave. He celebrated by searching the entirety of hut 104 where the guards pivoted around Harry's secret hatch. The searched lasted four hours – the longest time the prisoners had experienced. Finally the guards left without having discovered anything. Bushell was adamant:

"Rubberneck's obviously got it into his head there's something in 104, and we probably won't get away with it next time. I don't see that we can risk a next time."

"Well, we can't break it now", someone protested, indicating the snow, which was still piled on the ground.

"We damn well can if we have to", Bushell replied.

24th March was selected as the escape date as it fell at the time of a new moon. The entire camp began to buzz with activity. Bushell estimated that a maximum of 220 prisoners could break out through the tunnel in a single night. But 600

men had contributed to the work.

The escape committee selected 70 of those prisoners who'd made the greatest contribution – in particular, German speakers who had the best chance of escaping. The rest were determined by lot, all given cover stories, false papers, civilian clothes, map, compass, money and food. They helped each other construct their new identities and inspect the clothes.

When night finally fell on 24th March, the selected prisoners were ready in separate huts. Under cover of darkness – and at exactly 30-second intervals – they arrived at hut 104 via circuitous routes. Outside the fence, guards patrolled and the towers' searchlights covered the ground, but the Germans saw nothing.

Hut 104 was soon filled. At 19.45, David Torrens saw the hut's outer door suddenly open. A German officer walked inside and headed directly towards him. Three other prisoners jumped in panic into the nearest room as a trembling Torrens approached the German. Thoughts raced through his head – it felt like everything had been lost.

The German stopped and Torrens suddenly recognised him. He wasn't German after all, but a prisoner disguised in a fake uniform. Sick with relief, Torrens waved to the others.

At the tunnel hatch, Bushell was ready with a group of prisoners. They were already behind schedule. Finally, at 20.45,

Cardboard from the packages was – for example – used to insulate the tunnel corridors.



25,000 was

the estimated number of trips performed by the "Penguin" prisoners to get rid of the excavated sand and soil, which they discreetly deposited around camp.

Lester Bull and Henry Marshall descended into the dark as the first. Bull lay on the cart and Marshall pulled the rope allowing Bull to whizz off down the tunnel less than 10 centimetres above the tunnel floor. One by one more prisoners followed. Soon, 17 men were lined up at various points along the tunnel.

"I think you can have a shot at it now, Johnny", Bushell said to Lester Bull – a prompt to remove the boards and the final turf from the top of the tunnel exit.

Bull grunted and climbed up the dark chute. The men in the tunnel breathed slowly: the air was dense and heavy, and sweat ran down their bodies.

Bull was still struggling up in the shaft. It felt like he'd spent several hours up there already.

"How long?" Marshall whispered.

"Can't loosen the damn top boards", Bull answered. They'd become wet and swollen, jamming in place.

At the other end of the tunnel, the waiting prisoners began to ask what was wrong. The hatch to freedom should have been opened at 21.00 and it was now already 22.00.

Marshall looked at his watch. Bull had been struggling for half an hour. "For God's sake go and see how he's getting on", Bushell said to Marshall.

Marshall climbed the ladder and took Bull's place. He pushed like crazy and after 10 minutes felt the first board loosen. Bull resumed his place and removed the last remaining board. The sound of falling sand was like the sweetest music.

TUNNEL WAS TOO SHORT

Bull's shovel broke through the topsoil. Cold air flowed across his sweaty face. He made the hole bigger and could see stars above him. Now Bull was able to clamber up the last steps. He stuck his head out into the open – and got a nasty shock. Around him was a bare area. The men had made a fatal miscalculation, and the tunnel was too short. The protective trees were still three metres away.

Bull saw a sentry standing over by the camp's barbed wire fence, only around 15 metres from the hole. He quickly ducked his head. In the tunnel he broke the bad news to the others. He was met with silence. Bushell spoke first. For a moment he considered postponing the mission, but dismissed the idea:

"We can't put it off now", he reasoned. "All the papers are date-stamped. They won't be any good next month, and we won't get far without them. We've got to go tonight".

The prisoners nodded. They'd have to take their chances.

The men agreed that Bull should take a rope up with him, leaving one end dangling in the tunnel. When he was out and the coast was clear he'd pull the rope and signal the next in line. Bull climbed up and stuck his head out. The sentry guard was looking into the camp – he remained oblivious to the hole.

Bull hauled himself out and crawled carefully through the snow. When he reached the safety of the trees, he pulled twice on the rope. Silently, the prisoners started to follow. One by one they crawled through the darkness and over the snow to the trees. First came Marshall, who'd cleared the boards. He was followed by intelligence chief Valenta and next came the man with the drooping eye, Roger Bushell.

The first prisoners were free, and in total 76 pilots managed to escape. The men raced through the dark forest. Ahead lay a difficult and dangerous voyage of several hundred kilometres through Germany.

Only three pilots escaped Germany

Although the prisoners had got out, they were alone in the middle of enemy territory and had little chance of getting through the tight security net.

The majority of the 76 pilots who escaped were apprehended shortly after they escaped, partly because deep snow forced them to go on the road instead of moving into hiding through woods and over fields. Only three completed their escape from Nazi Germany. Two Norwegian pilots – Per Bergland and Jens Müller – came by train to the German port of Szczecin on the Baltic coast, where they fortuitously met some Swedish sailors who helped them aboard their ship. A few days later they stood in Gothenburg, where they went to the British Consulate and proceeded on to Canada.

Dutchman Bram van der Stok was on the run for three months before he reached Spain.

On 8th July, 1944 van der Stok crossed to Gibraltar and was flown to Britain.

Soon after, he was on the wings again and participated in the battles for Normandy after D-Day.

Out of the 73 captured pilots, 50 were executed – among them Roger Bushell, Ian Cross, Arnost Valenta, and Lester Bull.

Posters with pictures of the escapees were displayed across Germany.



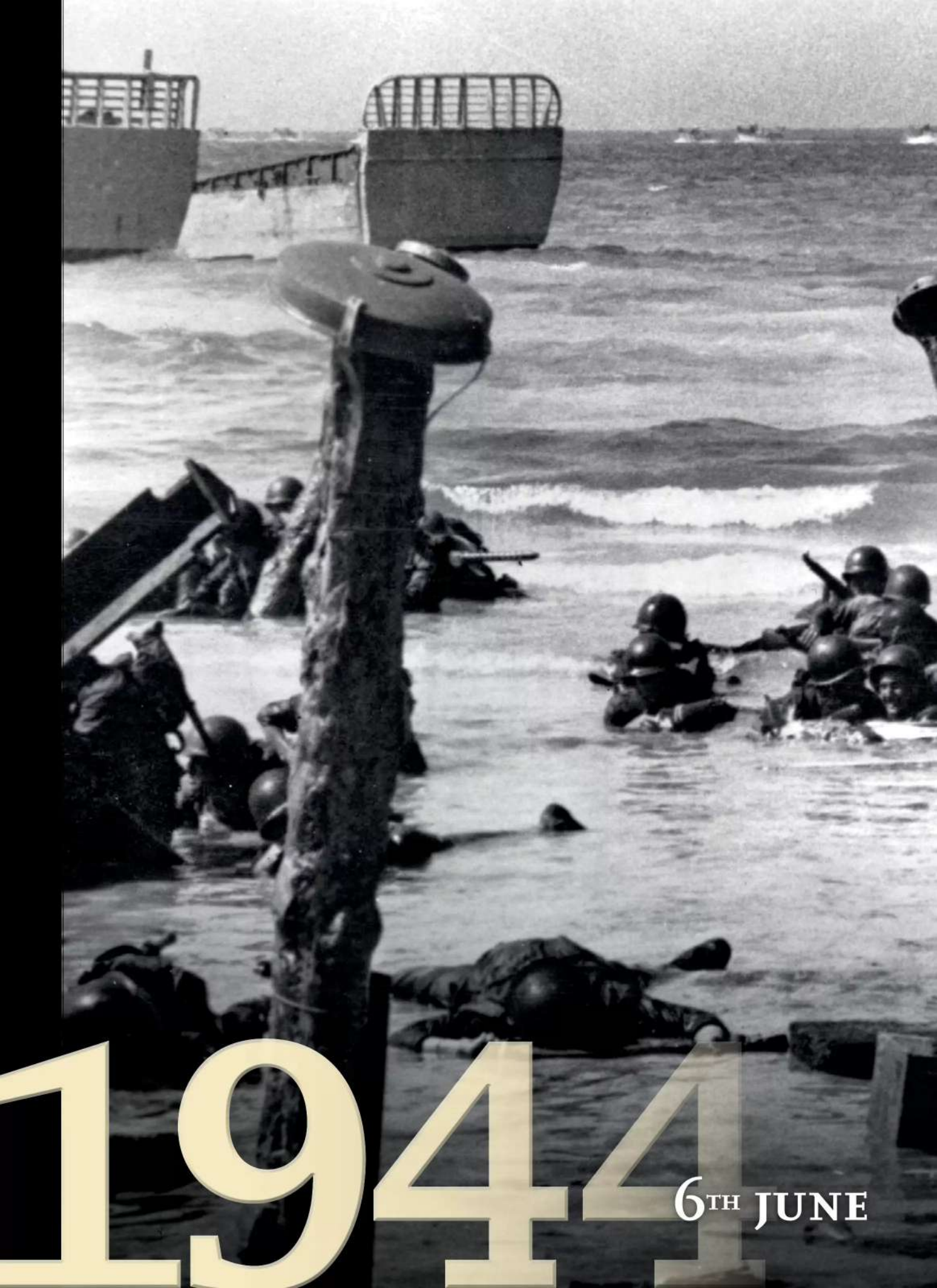
RETURN TO THE CAMP Hitler initially decided to execute all the escapees. But the Führer relented and contented himself with shooting 50 out of the 73 who were recaptured.

76 POWs escaped from Stalag Luft III through a hidden tunnel.

73 were recaptured, most only after a short time at large.


3 escaped Germany – two via ports on the Baltic Sea and one through France.

50 of the 73 were executed after capture by direct order from Adolf Hitler.



1944

6TH JUNE



Deadly obstacles like mines mounted on poles and a wall of gunfire awaited the Allies on the Normandy beaches.

• 🌀 • INVASION OF NORMANDY • 🌀 •

HELL ON OMAHA BEACH

History's largest armada has set sail from southern England. Its target is Normandy where an invasion will wrest the European mainland from Hitler's grip. But the Germans are ready behind a deadly defence on the cliffs above Omaha Beach. The price of victory will be high.

THE STAGE IS SET



The Allies have been preparing for a large-scale landing in France since 1940. In the spring of 1944 the invasion force is ready, but on the other side of the Channel, the Germans have prepared an advanced defence. The coast is strongly fortified and Nazi machine guns are ready to give Allied troops a warm welcome.



GERMAN SCOUT CORPORAL HEINRICH SEVERLOH focussed through his binoculars. It was 05.30 on 6th June, 1944, and he'd spent all night looking out across the English Channel from his cold observation post on the Normandy cliffs. As the morning fog cleared, a strip of black dots popped up above the horizon, and through his binoculars he watched them grow with horror.

"Ships, a lot of them, of all sizes", exclaimed the corporal as an ominous drone of aircraft now sounded from the air.

"They're coming!" shouted frightened German soldiers as they sprinted for the nearest bunker or shelter.

The bombers roared across the coast dropping their deadly cargo. The first bomb hit just 50 metres behind Severloh's position, throwing up soil and lumps of limestone around the corporal in the quaking bunker. The Germans breathed a sigh of relief as the rest of the Allied bombs fell in fields and forests behind them.

Meanwhile, the dots on the horizon turned into the silhouettes of enemy ships against a steel grey sky, and within moments the vessels' guns began to shake the earth under the Germans once more. Over the next half hour 10,600 rockets and shells roared over the shore. On the cliff the air became thick with smoke and dust. When Severloh again trained his binoculars on the water, he saw hundreds of landing craft heading over the waves. The corporal sprinted to the communications bunker. "It's starting! The big one is coming

inshore!" He screamed to his superior. The lieutenant however took the situation calmly and radiated astonishing aplomb:

"Poor bastards", he said calmly.

ALLIES EXPECTED LOSSES IN THE THOUSANDS

The German army knew that at some point in 1944 the Allies would embark on a large-scale landing on the continent – probably in France – but exactly where and when was a major headache to Hitler and his generals.

The US and Britain had prepared the invasion – Operation Overlord – for years and deceiving the Germans was a crucial part of the plan. While double agents filled the Nazis with false intelligence, the Allies set up a whole ghost army with inflatable tanks and fake planes in south-east England to fool the Germans into thinking that the landing would be made in or around Calais. In fact, the plan was to storm the beaches of Normandy as paratroopers dropped inland, capturing key bridges and preventing German reinforcements to aid the defenders on the beaches.

Hitler's infamous Atlantic Wall fortifications meant the entire French coastline was heavily guarded, but the Allies hoped the Nazis would succumb to the pressure of the 150,000 soldiers who would go ashore on D-Day. Operation Overlord commanders Dwight D Eisenhower and Bernard Montgomery knew that thousands of soldiers would be killed on the beaches, but the generals were ready to pay such a high price to crush Nazi Germany.

While British and Canadian troops captured the eastern beaches code-named Sword, Juno and Gold, the Americans would invade Omaha and Utah. All targets were carefully photographed from aircraft. But one detail was not caught on the photographs. The 10-kilometre-long Omaha Beach was not – as Americans erroneously believed – defended by inexperienced soldiers, but by experienced troops called in from the Eastern Front.

From an advanced system of bunkers on top of the cliffs that were 30-40 metres high, defenders had an ideal view of the beach, with barbed wire, mines and purpose-built barriers providing a deadly obstacle course for the attacking forces. Only five gullies led inland, and they were massively covered by German machine guns and cannons.

When the Allied ships set sail from the southern coast of England, the soldiers on



Soldiers made sure they lifted their arms above the water as they came ashore.

When the tide was low, troops with heavy artillery could move forward.



this perilous mission were in no doubt that this could be their last.

"I consoled myself with the fact that my parents would at least get 10,000 US dollars as compensation for my death", recounted one of the approximately 1,500 soldiers selected in the first assault wave on Omaha.

But despite the risk, it was also clear that the invasion, Operation Neptune, was crucial to breaking the Third Reich. Eisenhower had ingrained the message in each soldier.

"You are about to embark upon the Great Crusade, toward which we have striven these many months. The eyes of the world are upon you", were the general's words that were read to the men on the ships on the evening of 5th June.

THE DEAD FLOATED BY LANDING BOATS

As the clock neared 06.30 on 6th June, the Allies' flat-bottomed Higgins landing craft had been heading towards the coast through half-metre waves for an hour. The water washed over the soldiers who sat with about 30 people packed into each vessel. In their stomachs the Americans already had a substantial breakfast with "as much steak, pork, chicken, ice cream, and candy", as they could eat, as one infantryman put it. But on the heavy seas one seasick soldier after another emptied his stomach out on deck.

"I was so seasick I didn't care if a bullet hit me between the eyes and got me out of my misery", remembered one soldier.

American soldier Harold Baumgarten from the 29th Infantry Division counted himself fortunate that he had



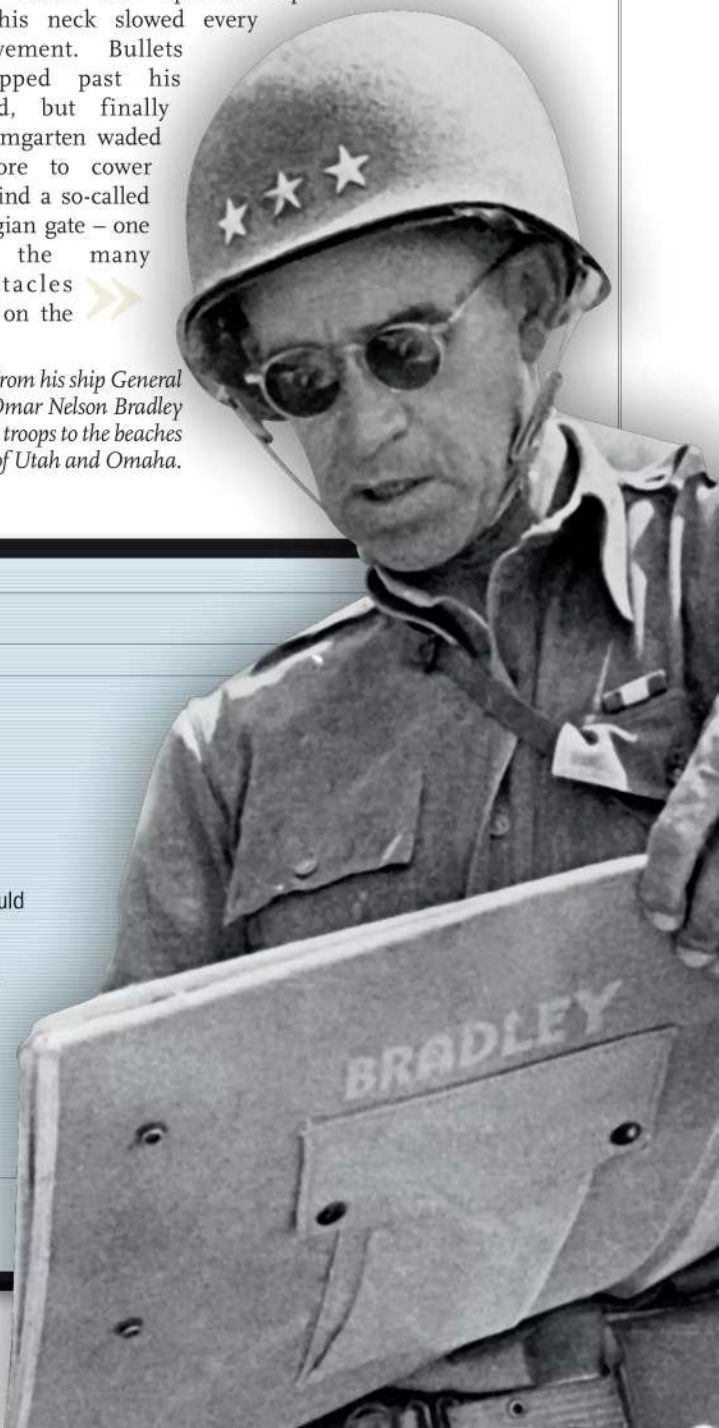
"Paratrooper crickets" helped distinguish friends from foe. A single click should be answered by two.

squeezed a candy bar down. But the 19-year-old New Yorker still felt nausea after the neighbouring boat was torpedoed by a shell, and a shower of splintered metal and the debris from torn-up bodies hit his boat. Ahead waited hell, and when the ramp went down, they would all become a part of it.

The first two men who stormed out of Baumgarten's boat, immediately fell into water that had already turned blood red, drilled by enemy bullets.

With his rifle raised above the surface of the water the New Yorker struggled toward the beach, but the waves that splashed up to his neck slowed every movement. Bullets whipped past his head, but finally Baumgarten waded ashore to cower behind a so-called Belgian gate – one of the many obstacles left on the

From his ship General Omar Nelson Bradley led troops to the beaches of Utah and Omaha.



1893-1981



NAME

OMAR NELSON BRADLEY

TITLE

GENERAL

General Bradley led invasion from the sea

With a primary responsibility for the forces that invaded Utah and Omaha, US General Omar Nelson Bradley played a leading role on D-Day. The general did not doubt that the invasion of Normandy would be a historic milestone,

"You will have a front-row seat to the greatest show on earth", he promised his American troops. Even Bradley felt that he was too far away from the fighting aboard a warship during the invasion. Radio communication broke down, and Bradley wrote after the war how the battle was beyond the reach of the generals and admirals.

Among the rank and file Bradley was known as polite and easy to deal with, and known as "The Soldiers' General". He was made a five-star general in 1950 – one of just nine to be given the rank.

- Was a big fan of horse racing and visiting racetracks.
- Died of cardiac arrhythmia, minutes after being honoured.

beach. Unfortunately his first act was to witness a comrade killed in the surf.

"It was hard to see the body parts of people that we all knew. We could smell the burning flesh. There were men yelling for their mothers", recounted Baumgarten.

SINGLE GERMAN INITIATED SLAUGHTER

Even before the first Allies had placed a foot on Omaha beach, Severloh had tumbled into Widerstandsnest 62 – one of the 14 main bunkers on the beach's cliffs. The bunker contained two 76.5-mm guns, one anti-tank gun and a grenade launcher, but Severloh grabbed one of the bunker's MG42 machine guns that could fire 1,400 rounds per minute.

Through the lookout he saw how the landing boats were approaching the beach one by one, and the moment the ramp was lowered, he resolutely squeezed the hot metal trigger. When recounting the story Severloh who became notorious as the "Beast of Omaha" because of his many kills, couldn't even remember how many he shot as the event was so traumatic.

Such thoughts hadn't burdened the corporal in the heat of battle, however. When he wasn't firing deadly volleys at the landing boats, Severloh shot at anything that moved in the water and on the beach. On the shore when the tide was still low, Americans' boots sank into the sand – they moved

clumsily forward and were easy targets. Many soldiers tried – like Baumgarten – sheltering behind the Germans' obstacles or the few amphibious vehicles that had reached land after battling the rigours of the waves.

From the bunker holes the Germans could also follow how the tide rose minute by minute: like a floating blanket the sea slid over the wounded Americans on the beach filling their lungs with water. US soldiers had strict orders not to rescue the injured: it was simply too dangerous. Instead they fought towards the stone rim 300 metres up on the beach where they could shelter from German bullets.

Baumgarten struggled across the beach, all the time looking for a hiding place when a 88-mm shell suddenly hammered down 20 metres in front of him sending sharp shrapnel through his left cheek. His upper jaw was shattered, and his palate ripped in two, leaving his teeth and gums a mush in his mouth. With blood dripping from his face he nevertheless managed to reach his comrades where he threw himself down with the others from the 116th regiment who had made it so far.

COOL GENERAL BOOSTED THE OFFENSIVE

Amid the chaos Brigadier General Norman D Cota waded ashore. From his landing boat the 51-year-old American –



The moment the ramps went down on the landing boats, the American soldiers were exposed to enemy bullets. Many did not even reach the beach – some were caught in the high seas and their heavy equipment pulled them under the water.

second in command of the 29th Infantry Division – had seen how hordes of tanks, bulldozers and amphibious vehicles either capsized in the waves or sailed into the Germans' mines. Without proper artillery support Cota knew that he had to rally the surviving Americans to break through the barbed wire behind the stone ridge. From here they could advance beyond the minefields in the marshlands to reach the cliffs from which the Germans bombarded the unobstructed beach.

"Get these men off the goddamn beach... If we've got to get killed we might as well kill some Germans!" bawled the general to the paralysed soldiers on the stone ridge.

Cota waved his .45 Colt as he took a walk along the ridge to find a suitable target site. His fearlessness carried over to the men. While a soldier fired against a defence position on the nearest cliff with his Browning automatic rifle, other soldiers launched Bangalore torpedoes underneath the barbed wire barricades. The explosive charges in the metre-long pipes went off, and when the wire was split, the first American climbed through the opening. The unfortunate soldier was promptly pierced by bullets from a German machine gun shell.

"Medico! Medico, I'm hit. Help me!" cried the soldier. His cries of "Mama" finally ebbed away as he died, and the sight of their stricken comrade led to further hesitation – until General Cota once again took action.

"C'mon! If an old buzzard like me can do that so can you", the general said resolutely, wading through the burning and smoking grass of marshland without hesitation.

Soon the rest of the group followed, while others on the stone ridge also dared to enter the dangerous minefield. In the absence of minesweepers, the vanguard crept forward with hunting knives, and a few soldiers were blown up as a warning to their colleagues further behind. No one had time to help tend open fractures or torn hands. The enemy bunkers on the cliffs had to be put out of action if the nightmare was to end.

DESTROYERS TIPPED THE BALANCE

The Germans had complete control of Omaha Beach for the first three hours that morning. The chaotic landing in high seas that had drowned soldiers and capsized amphibious vehicles had left the invaders more vulnerable than expected. They lost hundreds of soldiers in the first attack wave alone, and many more like Harold Baumgarten were so badly wounded that they could not fight on.

Out at sea, Commander Omar Nelson Bradley from the *USS Augusta* had ordered his forces towards both Utah and Omaha beach, yet it was also clear that the advance forces had not secured control. The disaster at Omaha was so bad that at

PARACHUTE FORCES		
	TROOPS:	13,000
	† CASUALTIES:	3,650
	TROOPS:	8,500
	† CASUALTIES:	1,500

Douglas C-47 Skytrain got paratroopers off the ground.

Skytrain flew during battle

820 US transport aircraft C-47 Skytrain showed their worth the night before D-Day when they delivered paratroopers into France.

A fleet of 820 C-47 Skytrains played a crucial role on the night before the invasion carrying 13,000 paratroopers inland behind the Normandy coast. The paratroopers' main operation was to capture the hinterland's key bridges and roads to prevent German reinforcements from joining their ranks.

The aircraft proved extremely robust. Despite massive shelling the Germans only managed to shoot down 21 aircraft. More Skytrains were hit and damaged, but managed to make the return journey across the English Channel. Here mechanics repaired the planes so quickly that they were able to fly again.



On the evening of 5th June, 1944 General Dwight D Eisenhower roused paratroopers for battle.

09.15 Bradley contemplated withdrawing his troops from the bloody beach to concentrate purely on Utah.

The general decided to stay the course, however, and at 09.50 he ordered his destroyers to sail towards the coast to reduce the German bunkers to rubble. As close as 900 metres from the shore eight US and three British warships sneaked in and fired heavy shells at the enemy. The guns were working so hard that sailors had to spray cold water on them to prevent overheating. At the same time several amphibious vehicles rolled ashore, and soon bulldozers drove into the steep stone wall to make gaps that the tanks could get through. Many of the bodies on the beach

14 hours of fighting on the beach

Through more than half a day Allied invasion forces fought over the almost 500-metre-wide Omaha Beach. The soldiers risked life and limb before they finally won control of the D-Day invasion's bloodiest beach.



Five beaches secure a foothold on the mainland

About 150,000 Allied soldiers invade the coast of Normandy. The generals have chosen precisely these beaches because the distance to England is relatively short, but the German defence is not as solid here as in the densely fortified area near Calais.

1 The bombardment begins

■ **05.30:** Allied bombers begin the assault on Omaha Beach. The **bombs however do not make any difference** when they land behind the German fortifications. 15 minutes later roaring guns from the battleships fire at the coast, to no particular effect.

2 The first troops go ashore

■ **06.30:** landing boats reach the beach before the tide has covered the German defence system of Belgian doors, wooden stakes, mines and Czech hedgehogs. German machine guns start firing. **Soldiers must move 300 metres** to find shelter behind a stone ridge.



Deadly obstacles waited on the beach

Alone on Omaha Beach, the Germans had set up more than 3,700 obstacles. Many were designed to slow the enemy landing craft at high tide, but the Allies cunningly attack at low tide.

Belgian gates

Heavy iron gates – three metres wide and weighing 1,280 kg – stolen during the invasion of Belgium slowed the Allied tanks.



Log Ramps

At high tide landing boats would glide up the ramp and hit a mine mounted on top of the wooden stakes.



Mine poles

The top of the mines were called Rommel's asparagus. Meeting with one would spell certain doom.



Czech hedgehogs

1.5-metre-high crosses of angled iron blocked the way of tanks.



5 Last fortress falls

■ **17.00:** the vast majority of German bunkers fall into Americans' hands. **The Allies conquer the last German bunker at 17.00.** Three hours later three nearby villages are also under their control. When the day is over, forces at Omaha Beach, control an area that is 10 kilometres wide and reaches two kilometres inland.

4 Troops clear the gaps

■ **14.00:** the Americans occupy the first of the five routes into the country. **The soldiers are now starting to drive tanks and trucks away from the increasingly crowded beach.** During the afternoon the other four gully roads are also taken.

3 Destroyers bomb bunkers

■ **09.50:** after a slow advance with heavy casualties among the Marines, the **Allied destroyers sail closer to shore – within a kilometre – so they can bomb the German fortifications:** this, coupled with the many tanks now inland, increased pressure on the Germans considerably.

Barbed wire

Behind the beach's stone ridges, wire prevented soldiers from advancing. They had to blow their way through.



Machine guns waited

In trenches and bunkers Nazi machine gunners were waiting.



Pockets of resistance

14 bunkers formed the core of Omaha Beach's defences. From the bunkers Germans covered both the beach and the roads. Each bunker was equipped with artillery, mortars and machine guns.

Lanyards with hooks and climbing equipment helped elite forces climb the vertical slopes to take a German gun battery.



The Americans lost seven percent of their invasion force on Omaha Beach. By the evening, once they'd seized the beach, 2,400 men had either died, disappeared or been injured. Here the wounded wait to be transported away from Omaha.

were crushed under tonnes of heavy machinery, but the impact of this massive effort couldn't be mistaken – pressure on the Germans grew, and several defences were smashed to smithereens.

"Things look better now", a colonel on the beach radioed to Bradley at 10.46.

A strong and steady stream of US soldiers now stretched across the marsh in long, serpentine rows sticking to the paths the others had come through so they weren't blown up by mines. One soldier compared the scene with the large cattle pens in the Chicago stockyards as he scrambled up the slope.

When the Americans reached the top of the cliff, they threw grenades into the German trenches and bunkers. Although Nazi troops' bullets filled the air around their heads, infantry and US Rangers – American commandos – continued their slow push into German territory. The attackers captured several gun emplacements, while new troops continued to appear from behind the cliffs. As C Company of the 116th Regiment made their way to the top,

they reached Cota, who stood with his Colt twirling around his finger.

"Where the hell have you been?" was the general's sardonic greeting.

GERMANS FLEE FROM THE COAST

Through the hole in Widerstandsnest 62's concrete facade Severloh watched the US advance with steadily fading optimism. The morning's easy pickings had been superseded by a more feverish defence as his MG42 panned around to stop the enemy's soldiers. "The Beast of Omaha" had fired thousands of bullets at the Americans, but now he was running low on ammunition. His only option now was to feed the machine gun with tracer cartridges. Tracers were as deadly as ordinary projectiles, but had the enormous disadvantage of lighting up whenever they were fired. Every time he pulled the trigger, he revealed his position. Over the



Paratroopers packed their parachutes the night before D-Day.

following 10 minutes, Severloh was forced away from his weapon as powerful shells exploded near the bunker. Each time, smoke rose to fill the German's lungs. His ears rang from the explosions. But he and his colleagues in Widerstandsnest 62 knew it was time to flee inland.

Soldier after soldier climbed out of the bunker's opening. As they ran they searched for shell holes that could serve as short-term shelter during the escape. After half a kilometre, Severloh finally dared to catch his breath and wait for those behind him, but only one comrade appeared. The rest had been felled along the way. The two survivors continued to their battalion headquarters in the village of Colleville, where a physician treated Severloh's facial wounds.

"We're waiting for the tanks", their commander told them. "Then we'll kick those Americans out again".

What none of them knew was that over 20,000 Allied paratroopers had landed the previous night, capturing key bridges to prevent German reinforcements from arriving at the beaches. At the same time Allied fighter-bombers had been shooting at tanks that attempted to cross the fields. The Germans' ability to maintain control of the Normandy coastline was about to be exhausted.

THE ALLIES ESTABLISHED BEACHHEADS

By 12.30 the Americans had landed 18,772 troops on Omaha, and landing craft continued to unload vehicles and equipment on the beach. Little by little the sound of German gunfire grew silent. Fighting continued in the ravines, but within a few hours they too fell under Allied control. Inside a few bunkers, Germans continued to fight to the last man, as Hitler had ordered, but a large portion of the defenders took to their heels.

At 14.58 forces from General Cota's 29th Division captured the village of Colleville which was 1.5 kilometres from the coast, taking German soldiers prisoner in the process.

Meanwhile army medics remained under pressure on Omaha, where the injured covered the beach. Medics patched up the wounds as best they could and gave the victims shots of morphine, but often they could not help much.

"I saw a young soldier, pale, crying and in obvious pain with his intestines out under his uniform. There was nothing I could do except inject morphine and comfort him. He soon died", recounted a captain from one of the Americans' medical battalions.

Blood had flowed on Omaha Beach on 6th June, but the Americans could rejoice that the victims had not fallen in vain. By evening they had taken the hostile beach and controlled a beachhead just over two kilometres inland. The mission had also succeeded on the four other invasion beaches. At Sword, Juno and Gold during the day Brits and Canadians had moved almost eight kilometres inland so they now had a foothold inside the cities of Caen and Bayeux. And at Utah US troops had only lost 200 men. The total price for the victory was thousands of lives, but the Allies had now taken a firm foothold on continental Europe, and Nazi Germany's days were numbered.

Allies avoided catastrophe

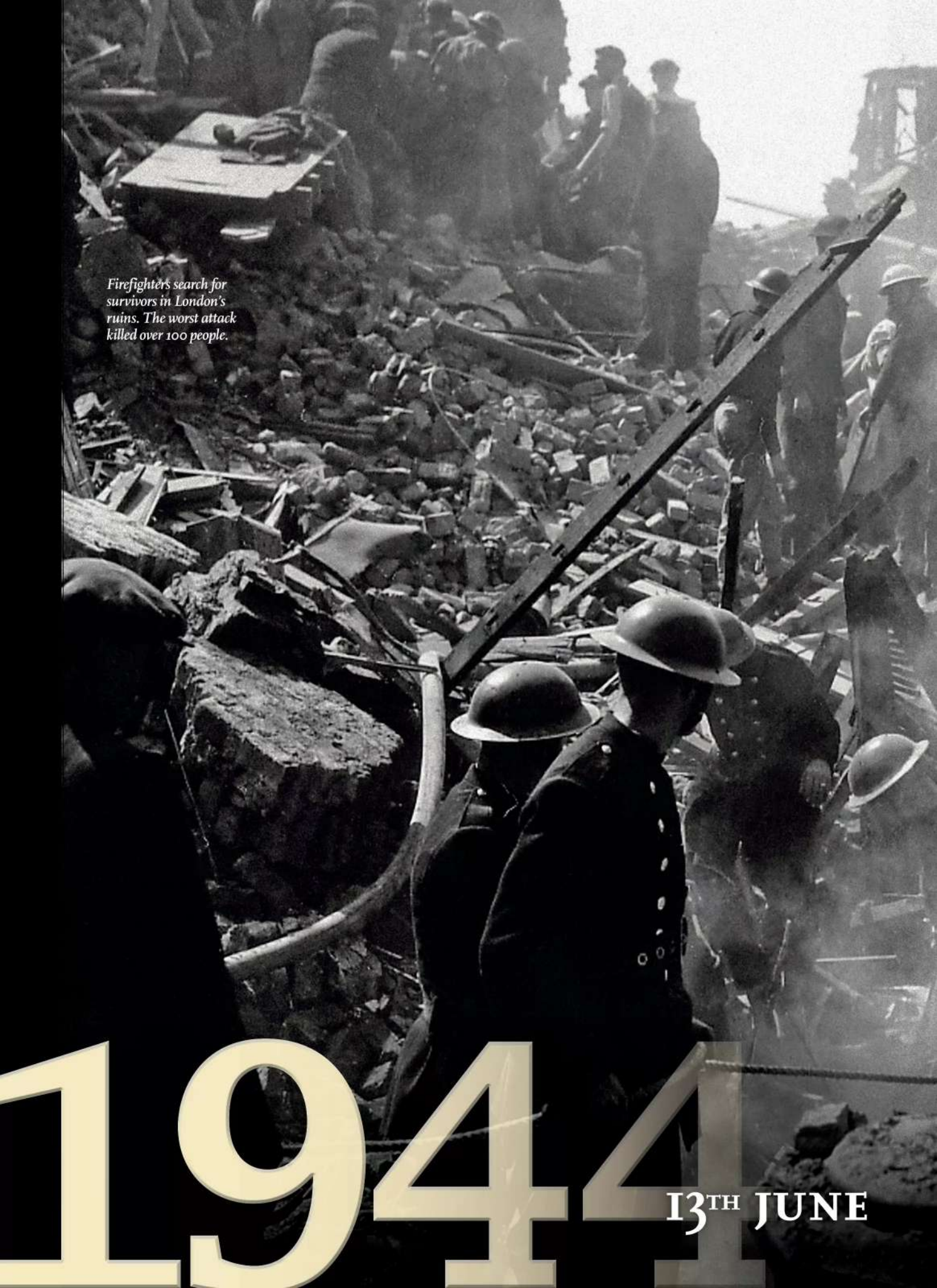
Although fighting on Omaha Beach was bloody when measured in human lives, the price of D-Day was nowhere near as high as generals had feared.

Allied casualties on D-Day



After the invasion, Allied troops could land peacefully.



A black and white photograph capturing the aftermath of a bombing in London. The foreground is dominated by a massive pile of rubble, including bricks, wood, and twisted metal. Several firefighters, wearing dark uniforms and helmets, are seen from behind, wading through the debris. A long, dark pole or beam leans diagonally across the scene. In the background, more figures are visible amidst the ruins, and a large, damaged building structure rises in the distance. The overall atmosphere is one of devastation and the urgent search for survivors.

Firefighters search for survivors in London's ruins. The worst attack killed over 100 people.

1944

13TH JUNE



• HITLER'S SECRET WEAPON •

LONDON HIT BY NEW TERROR

Adolf Hitler believes the V-1 bomb gives him the weapon to turn the war. The missile targets the English capital, which undergoes a second Blitz. But the world's first cruise missile can't break the British fighting spirit – on the contrary...

Southern England, 1944

THE STAGE IS SET



The Allies have landed in Normandy, and the war is being taken to Germany, but Hitler will fight to the end. Nazi engineers have developed a new weapon that will spread the fear and terror in Britain's capital and force the Allies to negotiate for peace. One evening in June, the brand-new V-1 rocket is ready to launch at London.



ON 13TH JUNE FARMER EDWIN WOODS was on alert in Kent as part of his duties in the Royal Observer Corps. At 04.00 that morning he spied a flying object through his binoculars. Woods couldn't identify what he saw and used the signal "a fighter aircraft on fire" to indicate what had crossed the English coast in a northerly direction.

Shortly after, a second observer spotted the flying object with fire from its tail. It sounded like an old-fashioned motorbike without a silencer and the observer – EE Woodland – guessed what it meant: a German flying bomb, which the intelligence services had long warned about.

Woodland grabbed the phone and sent his coded message: "Mike 2, Diver, Diver, Diver – on four, north-west, one-on-one".

Central command in London immediately relayed the message to the RAF's fighter squadron at Uxbridge, which sent planes into the sky.

At the same time, air defence sirens

began to howl in the British capital. Reports of the first V-1 to have crossed the English Channel continued to come in for five minutes – until the flying bomb suddenly nosedived into a grass field between Gravesend and Dartford. Another V-1 exploded shortly after in a field of potatoes near Brighton. But a third reached its target.

EXPLOSION FOLLOWED OMINOUS SILENCE

19-year-old new mother Ellen Woodcraft was in her home in Bethnal Green in London's East End. When the sirens sounded, she grabbed her eight-month-old son and headed down to the cellar for cover. Shortly after she would have heard a loud, strange buzzing sound. Not the familiar full-throated deep drone of German bombers, a sound all Londoners knew too well. This was something else – something no one had ever heard before.

Suddenly the sound stopped, and everything became completely silent for a few seconds. Then



A V-1 bomb being prepared for launch from northern France. It could hit London in around 48 minutes.



Lengthy ramps were used to launch the V-1s. The missiles were fired using a gas-powered catapult, which reached a speed of 580 km/h. The launch ramps were hard to hide, however, and presented easy targets to Allied bombers.

the surroundings were engulfed in a huge explosion and the house collapsed around Woodcraft. Next day, Ellen and her son Tom appeared on the list of six deaths from the first V-1. Another 30 people were injured, two buildings reduced to a heap of rubble and a railway bridge had been destroyed.

For nearly four years – since the Battle of Britain – the RAF had controlled British airspace and protected the civilian population quite effectively from German bombers. Londoners had thought the Blitz was long gone. Now they would have to accept that a new Blitz had begun.

TECHNOLOGY WAS BRAND NEW

Military experts consider the V-1 to be history's first cruise missile. The flying bomb was a technological breakthrough despite all its shortcomings and teething problems, and its development spanned more than 25 years.

The idea of transforming a small plane into an unmanned flying bomb was almost as old as military flight itself.

As early as 1915 engineers at Sperry Gyroscope Co in the US worked on plans for a so-called air torpedo, an unmanned aircraft that could deliver its bomb load and then return to base.

The idea was good – but impossible to realise because of the gulf between the engineers' ambitions and the technology available at the time.

Sketch after sketch was scrapped before it even left the drawing board – primarily for two reasons: first, engineers worked with propeller-driven aircraft, whose engines were so heavy that its bomb load had to be practically reduced to almost zero. And second, the problems of getting the plane home and landing it safely proved insurmountable.

German engineers were the first to realise what was needed: a disposable weapon designed not to return.

It also had to be powered not by propeller, but by a powerful, simple and inexpensive jet engine. One of the most talented German engineers was Paul Schmidt, who designed a simple jet engine, the so-called pulsejet, and presented the newly created Luftwaffe with his schematic for a flying bomb in 1935.

The Luftwaffe was not immediately interested. Schmidt's project was dismissed as "technically dubious and uninteresting from the tactical viewpoint".

This harsh judgement wasn't simply an expression of conventional thought, but also common sense. The weapon was so inaccurate it could only be used for indiscriminate bombing across a wide area. At the same time, the Luftwaffe had already developed major plans for a fleet of modern bombers that could do the job much better. It meant there was little point in investing large amounts in the development of a weapon not deemed to be needed.

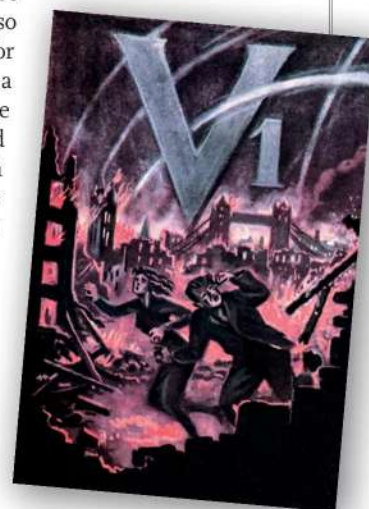
The Luftwaffe also rejected another engineer – Fritz Gossiau – who had plans for an unmanned plane with a tonne of high explosives that could be deployed against enemy bomber formations.

Luftwaffe command didn't dismiss the duo completely, however, and in 1940 paired Gossiau and Schmidt together.

Perhaps the two men could inspire each other and eventually come up with something useful. The pair were strengthened by the presence of a third engineer, Robert Lusser from aircraft manufacturer Fieseler. Lusser would design the prototype Fieseler Fi-103 – later known as the V-1.

HITLER DEMANDED MASSIVE RETALIATION

Before the end of 1940, the war took a sudden twist that thwarted the Luftwaffe's original plan. Against all odds,



German propaganda posters were dropped at the front in an attempt to scare Allied soldiers.



Missile was built on the cheap

The V-1 flying bomb was a technological breakthrough and became the ancestor of the modern cruise missile. But the awe-inducing weapon was also hastily produced at low cost and lacked both accuracy and durability.

Propeller measured distance

A small propeller in the V-1's nose measured how far the missile had flown and tilted the bomb down to its final target. The system wasn't very accurate.

Gyroscope kept course

A gyroscope and compass held the bomb's course. But it broke at even the slightest tremor.

VI rocket

Armoured blast head

The V-1's warhead contained nearly a tonne of highly explosive pentaerythritol tetranitrate – a mixture of TNT and ammonium nitrate equivalent to half the bomb load in a German bomber.

Two oxygen containers

Welded steel fuselage

Fuel

Plywood wings



A German technician fine-tunes a bomb before firing. Its jet engine can be seen at the top.

it lost the Battle of Britain. Stubborn British fighter defences shot down German bombers galore and eventually drove the Luftwaffe from British airspace. The German Air Force would not vanquish London in the same way it had devastated Warsaw.

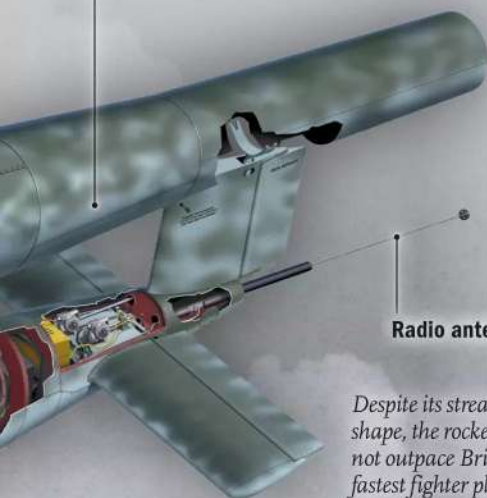
During 1941 and 1942, the British also initiated the regular bombing of German cities. Hitler demanded massive retaliation. Luftwaffe chiefs suddenly had need of a flying

bomb, so the project was accelerated. The first V-1 rocket was completed on 30th August, 1942. After a series of tests on the ground, engineers were ready for a test flight, which took place in the village of Peenemünde on the German Baltic coast. The jet engine was started and a gas-powered catapult propelled the V-1 up the launch pad. The bomb flew for around one minute, reaching 500 km/h before it crashed into the sea.

The result was promising, but then problems began in earnest. By the end of July 1943, the Germans had completed

Engine beat like a heart

V-1s were driven by a so-called pulsejet engine that pumped fuel into the combustion chamber 47 times per second, just as the heart pumps blood.



Radio antenna

Despite its streamlined shape, the rocket could not outpace Britain's fastest fighter planes.

FLYING BOMB



Vergeltungswaffe 1 (V-1)

Length	7.73 metres
Wingspan	5.33 metres
Diameter (fuselage)	82.5 centimetres
Weight	2,200 kilograms
Explosives	850 kg of amatol
Top speed	670 km/h
Range	210 kilometres
Accuracy	13 kilometres

BOMB WAS CHEAP

Pros: each V-1 cost just 5,600 Reichsmark to produce, and the entire manufacturing process took just 350 man-hours.

Cons: frequent failures either before or shortly after launch; also easy to knock out.



This medal honoured the victims of the attacks in London.

as possible. But this came with its own cost: on several flights the V-1's wings simply fell off. It forced engineers to scrap the 1,400 V-1 bodies already produced that – to save time – had only been spot-welded at the factory.

The developers also found themselves pushed for time because Luftwaffe chiefs wanted the first 5,000 V-1s ready by 15th December, 1943. But although the problems were gradually solved one by one, this deadline proved unrealistic.

Production at Fieseler and Volkswagen factories had begun in August, but within two months Allied bombers struck the Fieseler factory and levelled the V-1 product line to the ground. Later they targeted the VW factory too. Only when V-1 production was moved to an underground factory could production click into gear. The work was carried out by concentration camp prisoners in poor conditions, and the V-1 had cost thousands of lives even before the first missile had been fired.

BRITISH FOLLOWED THE PROJECT

British intelligence learned early on about the V-1 project. At the end of August 1943, a test firing on the Baltic Sea ended with an unarmed V-1 crashing on to Bornholm island. Here, Danish resistance fighters were quickly on the spot to photograph the wreckage before the Germans blocked off the area. The images were sent to London.

At the same time, French resistance fighters discovered where in Normandy the Germans were building launchers and passed on the information to the British. Allied reconnaissance aircraft located the bases the moment the Germans started constructing them. By the end of January 1944, the Allies knew where all 96 V-1 bases were being built and launched a massive bombing raid. By the end of April 18 had been destroyed and 48 were badly damaged.

General Erich Heinemann was head of the special Luftwaffe unit that was supposed to launch the V-1 weapons. Heinemann soon realised it was hopeless using the original air bases, but decided to continue repairing them to keep the Allied bombers occupied. At the same time he ordered new makeshift firing bases to be built that were much smaller and better camouflaged than the old ones.

Meanwhile, an increasingly frustrated Hitler could not hide his impatience. Heinemann stood firm for a long time, but once the Allies had landed in Normandy on 6th June, 1944, the project launch could no longer be delayed.

Heinemann still faced a number of hurdles. He had a variety of bases, many of which were only half-finished. His people weren't fully trained. And the so-called wonder weapon was nowhere near ready for use. German High Command would hear no more objections, but just wanted to see the bombs rain down over London. The general realised he'd have to fire and hope for the best.

Heinemann ordered the first volley to be fired on 12th June at 23.00. 63 of a total of 72 firing bases were

68 trial launches, but only 28 had been successful. One key problem was that the engine and fuselage didn't fit together. The V-1 had to transport a one-tonne bomb, so it was equipped with an extremely powerful engine and a small, lightweight body. But the muscular engine vibrated the missile so much that in many cases it was shaken to pieces within a few seconds of launch.

At the same time, the disposable weapon had to be cheap and quick to produce, so everything was designed as simply

A little girl is rescued from the rubble after a V-1 attack in Buckingham Gate in central London.



News of the new German bombing campaign drew indignation from many parts of the world.



ready, but the results of that first launch were discouraging: only nine V-1s left their launchers and all crashed before reaching the English coastline.

A new salvo was fired off the same night – at 03.30 on 13th June. This time 10 V-1s got away. Four crashed immediately after firing, while another two disappeared into the Channel. The last four reached Britain, but three did no harm. Only one V-1 hit London – the one that struck in Bethnal Green at 04.18 to kill Ellen Woodcraft, her infant son and four others.

19 V-1 bombs – the missile heralded as the new wonder weapon – had managed to kill six Britons between them. Through German eyes, the first attack was a disaster. Heinemann was not looking forward to hearing the Führer's reaction.

The British were similarly unimpressed. At a cabinet meeting held the same day, Churchill's scientific advisor Lord Frederick Cherwell expressed his opinion with words borrowed from the Greek fable writer Aesop:

"The mountain hath groaned and given forth a mouse!"

LONDON WAS HIT 73 TIMES THE NEXT DAY

The following day – 14th June – Heinemann's staff worked feverishly to identify and correct the mistakes that had prevented the majority of V-1s functioning properly. The following day the unit made another attempt.

244 V-1s were fired in rapid succession, of which 45 crashed shortly after take-off and more on the way over the channel. Of the 144 that reached the English coast, 45 were shot down by anti-aircraft guns, and seven more by fighter planes, while others veered off course. But 73 V-1s hit the capital, each detonating their one-tonne payload that spread death, destruction and terror. Now the situation was suddenly different.

The only comfort for Britons was that they were so well prepared. 480 barrage balloons and 1,512 anti-aircraft guns had been placed along the stretch of southern coastline the V-1s had to pass on their way to London.

There were also the fighter pilots. The V-1 had a cruising speed of around 670 km/h, which made it possible for speedy fighters like the Spitfire and Mosquito to catch the missile and render it harmless before it reached London.

In early July, the Germans fired around 4,000 rockets. Around 3,000 reached the British coast, and of these 924 were taken out by fighter planes and 261 by anti-aircraft fire. An additional 55 crashed after striking barrage balloons or their steel wires. This still left over 1,700 V-1s that hit London within a month.

Although the British couldn't be cowed, the V-1 created exactly the kind of terror that Hitler had hoped for. What was particularly unnerving about the weapon was that it was completely indiscriminate, so anyone might be the next victim. Its sound contributed greatly to the horror.

The missile roared with a hellish sound, but the engine died when the bomb

V-1s that crashed without exploding were thoroughly dissected by Allied experts.

FLYING BOMB

WEAPON'S DEVELOPMENT WAS REVEALED BY SPIES

1942

DECEMBER

The **first test flight** by a V-1 bomb takes place in Germany after several years of development.

1943

JUNE

British intelligence **uncovers the firing of rockets** at the secret German base at Peenemünde.

AUGUST

The base at Peenemünde **is bombed**. Multiple installations are destroyed, delaying the project.

1944

13TH JUNE

The first V-1 bombs are **fired at London**.

30TH JUNE

A **V-1 detonates** outside the Air Ministry building in Aldwych in central London, killing 48 people.

4TH JULY

Allied bombing raids on launch bases in France **reduce the number of attacks** on London.

AUGUST

Improved air defences and new techniques to knock V-1s off-course further limits the number of attacks.

SEPTEMBER

The last German bases from which V-1 bombs can reach England **are captured**. The attacks on London stop.

OCTOBER

Attacks against **Belgian cities**, especially Antwerp, begin.

1945

29TH MARCH

The last launch base is captured by Allied troops, and V-1 **attacks stop completely**.



began its fall towards the target, and a few seconds of complete silence followed. V-1 wasn't simply a terror weapon in the technical sense – it was also a psychological one.

As with the first Blitz, tens of thousands of children were evacuated to the country. Those who had to stay in London armed themselves with black humour. There was sport in finding the funniest nickname for the hated V-1s whose engines sounded like the elongated breaking of wind. "Farting furies" became a popular term.

The V-1 offensive peaked on 3rd August, 1944. A total of 316 V-1 bombs were fired that day, and 220 hit London. From here it became less effective, not least because of increasingly improved air defences. British fighter pilots developed a technique whereby they flew up close to a V-1, so that one of the fighter's wings was just below the bomb. The pilot would then roll the plane so the wing clipped the V-1 and turned it on its back, after which it crashed into the ground.

At the same time, V-1 production couldn't keep up as total Allied air superiority made it difficult to bring the weapons to the usable launchers that remained in German hands.

BELGIANS WERE NEW VICTIMS OF V-1

Hard German resistance kept the Allied invasion force stuck in Normandy longer than expected, but the Allied armies finally managed to break out and capture territory at a fast pace. The V-1 units had to retreat along with the German forces and the last V-1 was fired from France on 1st September.

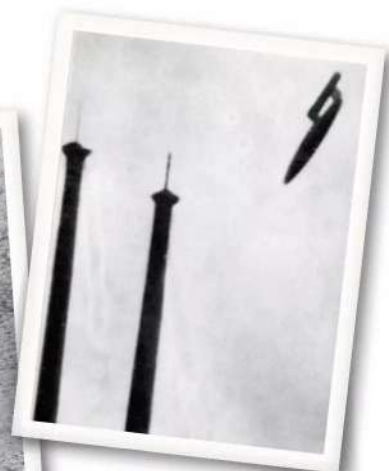
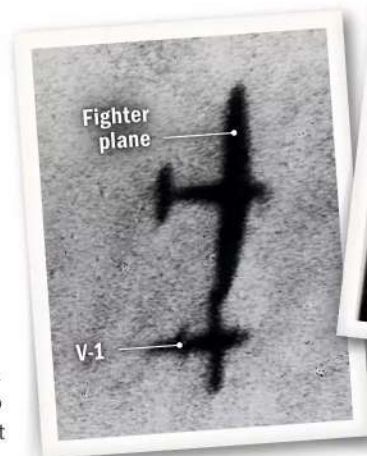
V-1 units built new launch bases, first in Belgium and Holland, and finally on the German side of the Rhine. But

from here the flying bombs could no longer reach London. Instead, more than 10,000 V-1s were fired at the now liberated Belgian cities of Liege, Brussels and – especially – Antwerp. Nearly 15,000 Belgians were killed or wounded.

In February 1945 the V-1 units were supplied with a new model with longer range, which could again hit London. In a last gasp, 275 bombs were fired, 13 of which reached London. The last fell over the city on 29th March, but it marked the end of the V-1.

The V-1 flying bomb killed around 5,500 Britons in total. Although the bomb spread fear, the British didn't falter as Hitler had believed; on the contrary, it strengthened the Allied fighting spirit. At the same time, military historians believe the Germans made a big mistake by spending so much of their resources on the V-1. As V-1 expert Steven J Zaloga wrote:

"While the V-weapons may have satisfied Hitler's thirst for revenge, from a military perspective, they were utter folly".



Fighter planes could knock V-1s off course with their wing before they reached their targets.

Hitler wanted kamikaze aircraft

70 pilots volunteered to die for Germany in a converted version of the V-1. Suicide planes would be deployed against particularly important targets, but caused great dissension within the Luftwaffe.

Development of a manned version of the V-1 began in 1944. The pilot sat in a cockpit in the front of the jet engine to steer the bomb towards its target after which he – in theory – could choose to parachute or stay in the bomb and die for the fatherland. The plan shocked many Luftwaffe

commanders, but no one dared speak against Hitler. The plane was built, and 70 pilots volunteered. Test flights showed that it was practically impossible to get out with a parachute.

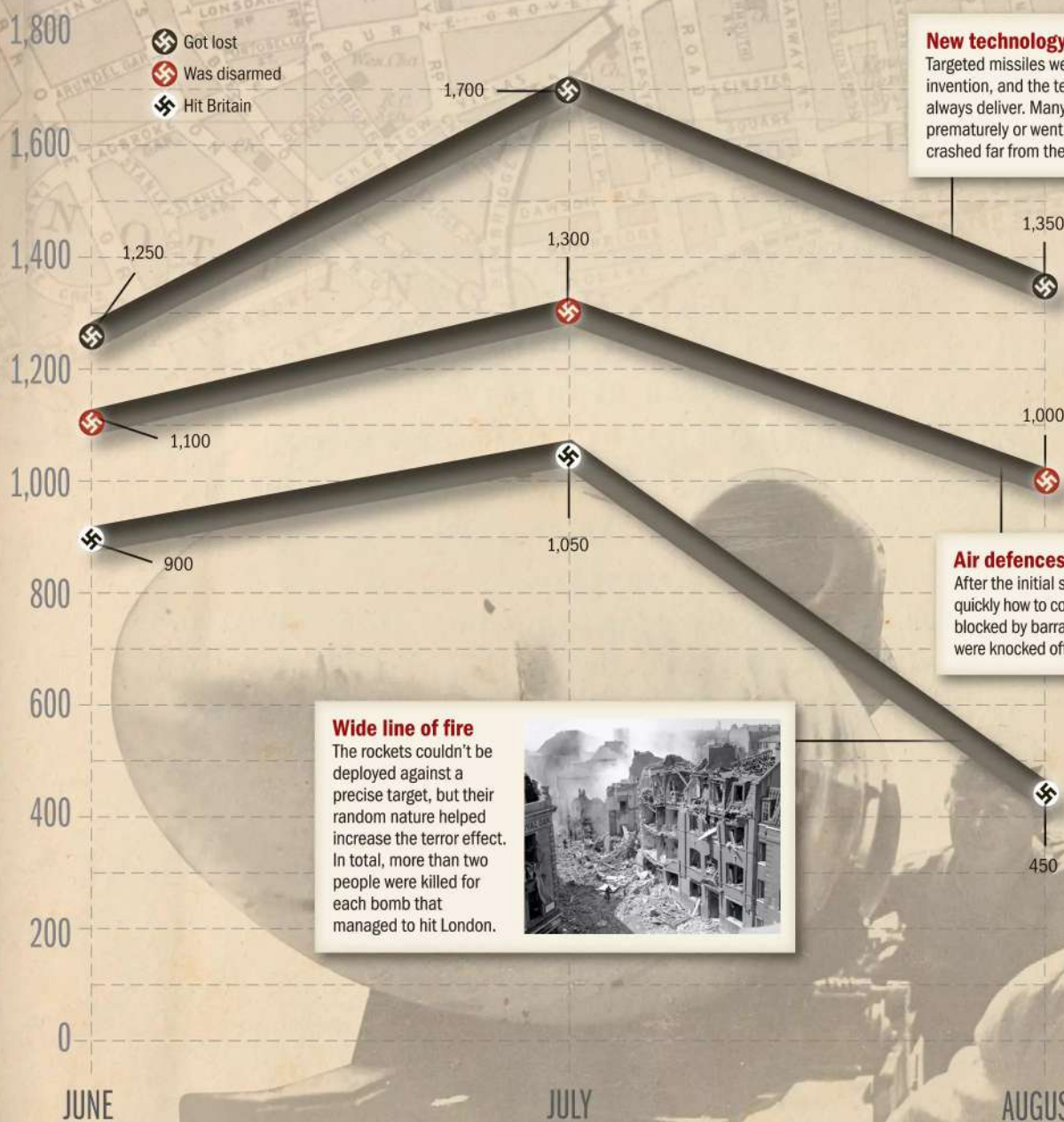
Moreover, the plane was very unreliable. The project leader lost faith in the project and contacted Minister of Armaments Albert Speer. He convinced Hitler that the suicide attack was contrary to German war tradition, and the Führer agreed to abandon the project.

The suicide plane was never deployed. Here a converted bomb was confiscated by the British.



Three out of four bombs failed

The V-1 bomb spread terror across London, but luckily the rocket wasn't that stable and proved relatively easy to shoot down.



New technology cost dearly

Targeted missiles were a brand-new invention, and the technology couldn't always deliver. Many bombs exploded prematurely or went astray and crashed far from their intended target.

Air defences were effective

After the initial shock, the British learned quickly how to combat the V-1. Some were blocked by barrage balloons, while others were knocked off course by fighter planes.

Wide line of fire

The rockets couldn't be deployed against a precise target, but their random nature helped increase the terror effect. In total, more than two people were killed for each bomb that managed to hit London.



10,100 V-1 bombs were launched against Britain.

2,400 reached their target, primarily London.

5,500 Britons were killed in the attacks.

18,000 were wounded.



• FRENCH UNDERGROUND ARMY •

FEMALE AGENTS CHEAT THE GERMANS

A tough baker, a fearless Indian princess and an industrialist's wealthy wife are among the female British Recruits who help the Resistance in France. The secret spy service does not hesitate to use its females' natural assets.

1944

21ST JUNE



Nancy Wake

Agents like Nancy Wake took full advantage of the fact that German soldiers in France rarely saw women as threats.

THE STAGE IS SET



The Germans control France. But in many places pockets of resistance arise that take the fight to the occupying power. However, the groups are isolated around the country and poorly equipped. From London, the British are trying to help the emerging liberation movement by sending secret agents to France.



A TERRIFYING SIGHT MET NANCY WAKE as the agent looked back over her shoulder. Two German Henschel aircraft had broken free from formation and dived toward the mountain road where Wake manoeuvred her truck through a series of tight hairpin bends.

The aircraft engines' roar drowned out all but the furious "tak, tak, tak, tak, tak" from machine guns. The bullets sprayed streaks of sand on the road in front of the engine, and as the planes rose again, Wake could see a strip of bullet holes along the bottom of the truck. Unbelievably, the driver hadn't been hit. 33-year-old Wake uttered a few French swear words before one plane changed course back towards the truck, which by now had reached an open road without cover.

The other plane turned in the opposite direction and sets its course across the area's vast forests in search of French

"A woman could get out of a lot of trouble that a man could not"

Nancy Wake, SOE operative

opponents who hid in the Auvergne's densely populated mountain regions.

FEMALE COMMANDER

When the attack took place on 21st June, 1944, Nancy Wake was the most successful agent throughout France for the British Special Operations

Executive (SOE) – a top-secret spies

and sabotage organisation that had been set up in London four years earlier.

While the Allies fought to expand the sparse bridgehead created in Normandy on D-Day, the female agent had established herself as the de facto leader of a group of 7,000 Maquis guerrilla soldiers in the Auvergne. At that time the Resistance was hard-pressed by 22,000 ruthless SS soldiers who were called to the area to hunt for partisans. The Germans knew from informants that resistance fighters were in the area. Freedom fighters were ready to take up the fight, but they were scattered in numerous smaller groups and lacked essential supplies and weapons. Agent Wake drove a one-woman gauntlet in her truck between numerous groups of maquisards to coordinate fighting and distribute weapons and ammunition the British had dropped by parachute. France had been relatively calm for a long time, but after the invasion of Normandy, the situation was changing. All French resistance groups had been activated to keep German troops



Winston Churchill

Churchill founded a spy organisation in the face of opposition.

SECRET ARMY SET FRANCE ABLAZE

1940

22ND JULY

The Special Operations Executive (SOE) is formed in Britain to help resistance movements in all German-occupied territories. SOE is known among inner circles as Churchill's secret army.



At its peak SOE had approximately 13,000 employees.

address also gives SOE the nickname the Baker Street Irregulars.

31ST OCTOBER

SOE moves into its headquarters in central London – the

2ND DECEMBER

SOE starts to set up training centres on properties across mainland Britain.

Operatives were often nurses who only found out what they were being recruited for after some time.



occupied – partly in support of the invasion of northern France, but also to provide better conditions for a future Allied landing on the French Mediterranean coast.

The foul-mouthed former nurse, freelance journalist and wealthy wife was one of a small but carefully selected group of about 40 women who from 1940 onwards had been recruited by the Special Operations Executive in London. The organisation was formed by Winston Churchill, and the

The nurses were organised in the First Aid Nursing Yeomanry (FANY).

British Prime Minister's resolute order to its first chief was to "set Europe ablaze".

The initiative was not popular everywhere, and the SOE project was given nicknames such as the "Ministry of Ungentlemanly warfare" and "Churchill's secret

SOE TORMENTED GERMANS

1941

15TH MARCH

Free French troops are dropped for the first time by SOE using parachutes into France. Their mission is to kill German pilots who bomb Britain from Meuxon airfield. The operation fails and the agents are returned to the British mainland.



5TH MAY

Georges Bégue is the first Special Operations Executive agent to operate alone in France.

Georges Bégue formed the French resistance network in 1941.

7TH JUNE

A power plant in Pessac near Bordeaux is blown up. Work at the port's submarine base is delayed for weeks due to the power shortage. The action is SOE's first big success and strengthens its reputation with Allied High Command.

1942

JUNE

SOE establishes a research centre in

former hotel the Thatched Barn, where special weapons like midget submarines are developed.



SOE built a midget submarine that could be used to place mines on enemy ships below the waterline.

24TH SEPTEMBER

Andrée Borrel and Lise de Baissac are two of the first Special Operations Executive female agents to be dropped by parachute near Orléans in France.

18TH OCTOBER

Hitler decrees that all Allied commandos can be killed without trial. The order will have consequences for several agents.

army". Many conservative members of the British officer corps felt that this kind of warfare was not in line with traditional soldiers' ethics. But Churchill and his people did not care.

Soon after the creation of SOE in the summer of 1940 came the idea of supplementing SOE's male recruits with women. The philosophy was that female agents possessed a number of advantages – particularly in occupied France, where many women already travelled around alone. A great number of them cycled around with baskets full of everything from eggs to samples in an effort to support the family while their husbands were deported to German POW camps or sent to Nazi Germany to work.

Female agents could therefore easily move around among so many unaccompanied ladies. The spies could smuggle messages, explosives, secret operation cards and communication equipment in their bicycle baskets, as no-one would take note of a woman travelling alone on foot or by rail. The German soldiers were often rather old-fashioned and so did not see women as a threat, but rather as targets for courtly gallantries and romantic overtures.

AGENTS WERE RECRUITED FROM MANY SOURCES

Women were mainly recruited to SOE through the nursing organisation FANY (First Aid Nursing Yeomanry), and by tapping women who'd volunteered for service at home with the navy, army or RAF. But SOE also sourced agents through newspaper advertisements looking for women with good language skills.

It was only after several conversations involving lengthy cryptic questions that the women realised what they were

getting involved in. The result of the selection procedure was a patchwork of female agents, which included a doctor's wife, several shop assistants and a professional dancer. Several of the women even had small children.



SOE was created in secret. The organisation's work wasn't widely known until after the war.

During the first year of the war, female recruits only underwent a few weeks of rudimentary training, but eventually SOE training became longer and harder. The training took place in several acquired properties around the country. By the time Wake joined the SOE, the programme was fully developed, and she got the full experience. She was already an experienced lady in secret work and had one French double life behind her: when the war broke

out she'd begun to smuggle Jews, British pilots and other refugees from occupied France, mostly via Spain. At the same time, the New Zealand-born Wake lived a civilian life in Marseille together with industrialist Henri

Fiocca, whom she married in 1939. She became notorious among the Germans, who gave her the nickname White Mouse and sought her throughout southern France. Twice Wake underwent lengthy conversations with Gestapo interrogators but they never realised that the quick-witted lady they held was White Mouse.

Finally, the Gestapo had come too close, and Wake had to flee to Britain. When she tried to sign up as a saboteur for General de Gaulle's Free French Forces, SOE got wind of Wake and snatched her from under the noses of the French.

LADIES WERE SENT INTO THE WILDERNESS

The first part of Wake's training was known as the "Madhouse". Military obstacle courses, psychological tests and collaborative exercises were all part of the

"I don't see why we women should just wave our men a proud goodbye and knit them balaclavas"

Nancy Wake, SOE operative

1943

17TH APRIL

Peter Churchill is arrested in France. He claims to be a close relative of Winston Churchill and survives several concentration camps. After the war the agent becomes a symbol of the SOE and the subject of a film.

1944

6TH JUNE

At the same time as D-day, the first so-

called Jedburgh team will be dropped in France to help the opposition behind the German lines. The

groups typically consist of Allied officers and people with local knowledge of the area.



Jedburgh teams were small units that attacked vital German transport hubs.

1945

29TH APRIL

Special Operations Executive agent Brian Stonehouse is liberated from Dachau concentration camp. During his stay in several camps he has seen several female agents – including Andrée Borrel – executed, and he later testifies against the Nazis in war crime trials.

8TH MAY

The war in Europe ends. Dwight D Eisenhower, the American commander, says that SOE's efforts have helped to shorten the war by about six months.

1946

15TH JANUARY

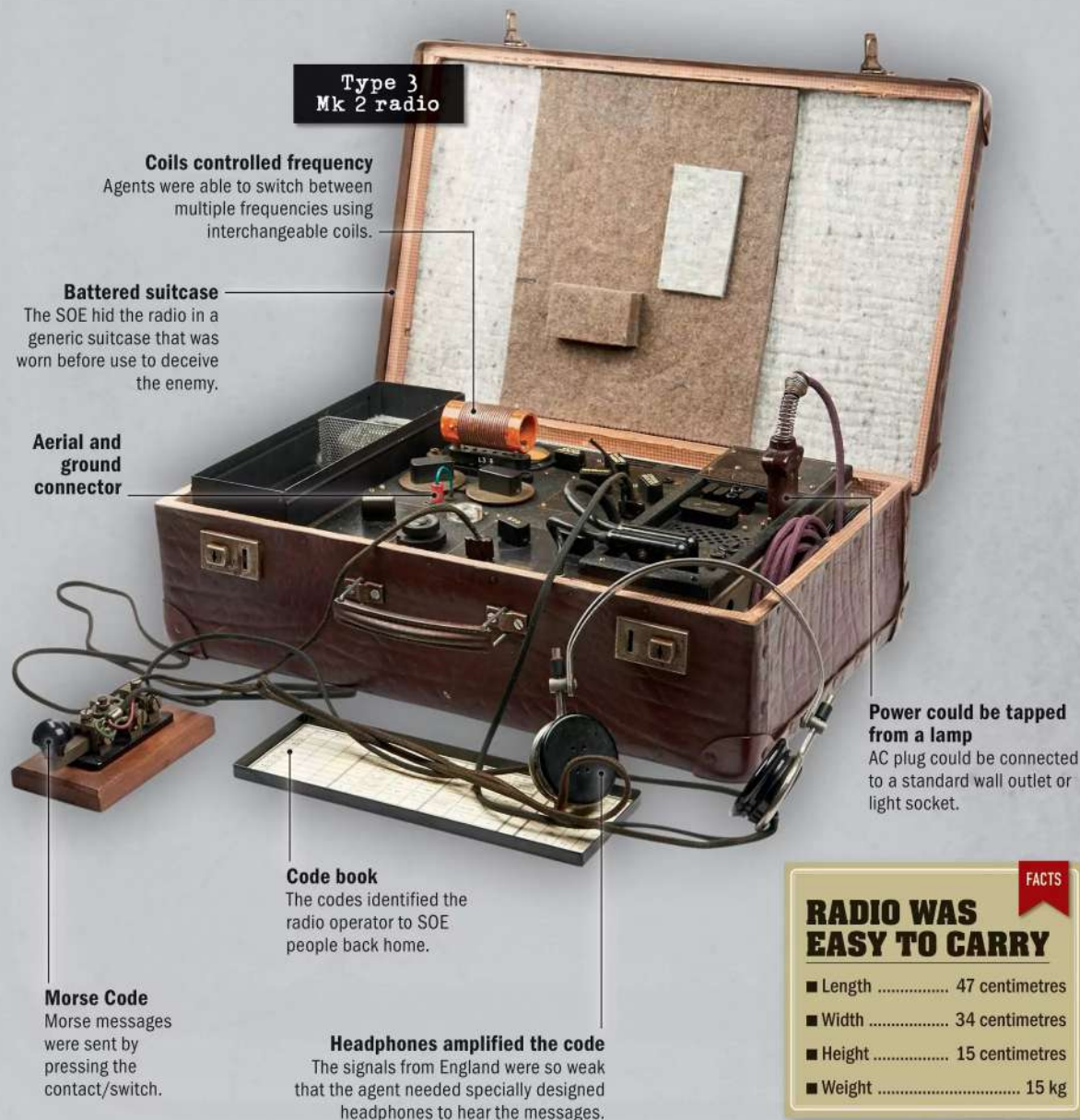
SOE is officially dissolved.



*Captured agents risked
torture and execution
without trial.*

Radio was hidden in a suitcase

13 Special Operations Executive female agents in France worked as radio operators. SOE had developed a special radio set that could be stored in a worn suitcase and set up quickly.



TRANSMITTERS

programme. Wake alternately cursed and charmed her way through the course until she was ready for the next step in agent training – six weeks of boot camp at Inverie Bay in the remote Scottish Highlands.

As the only woman on the team Wake cheated on morning training by feigning menstrual pain, but she didn't shirk from 36-hour marches, trail running or obstacle courses. Nor did she

avoid learning the other important skills needed to be a spy. Wake learned how to throw grenades, fight in unarmed close combat, sail small boats and kill silently, along with the art of sneaking unseen through the countryside and living off

nature. The female recruit excelled in many of the disciplines, but became known as a sharpshooter with a Sten gun. She was not alone: another female SOE agent – Yvonne Rudellat

“Without freedom there was no point in living”

Nancy Wake, SOE operative

Nancy Wake was difficult to spot with her false identity papers and good French language skills.

– surpassed all others in her team in precision shooting.

Wake learned to parachute in Manchester along with other female SOE agents. The majority underwent this training because most would be dropped over France from planes. A woman who worked to pack the parachutes later recalled seeing female agents getting ready to jump “complete with lipstick and make-up – otherwise it was hard to tell that they were really girls, what with their parachute suits, crash helmets and so on”. Instructors sometimes made the women jump first, so that the men would not hesitate to follow for fear of losing face. After parachute training, they were primed on established Gestapo interrogation techniques, and then taught to make explosives from everyday ingredients before a final, intensive period spent rehearsing a new, false identity. Wake was assigned the identity of Lucienne Suzanne Carlier and the code name Hélène that she would use in all communications with London. At last, Wake was ready to do what she so ardently desired: participate in the fight against the hated Nazis.

AGENT JUMPED OUT IN HIGH HEELS

One April night in 1944 an airsick Wake jumped from a four-engine American B-24 Liberator bomber near Cosne-d'Allier in central France. She was wearing silk stockings, overalls, camel-hair coat and high-heeled shoes. In her handbag she had false identity papers, a million francs in cash and plans for sabotage. London wanted the following destroyed prior to D-Day: German underground telephone cables, a railroad fence and three factories.

Along with her radio operator and a co-agent, Wake coordinated a series of weapon and supply drops that would enable local French opponents to carry out the sabotage campaign and fight against the Germans. She tirelessly travelled between the area's resistance groups and paid money to the soldiers and their families, while she regularly reported back to the UK. Through her contact with London, she could procure weapons and more cash. Her good relations with headquarters established during the spring of 1944 made Wake the real leader of the area's force of 7,000 maquisards. The fact she could drink any resistance man under the table only strengthened her reputation among the French.

The instructions that Wake carried around in her handbag were performed to perfection, and similar events took place all over occupied France: the resistance movement's tampering prevented the Germans from communicating efficiently and bringing troops quickly into the newly opened front in Normandy. The resistance movement was crucial to making D-Day a success, and in many places, female SOE agents played important roles in the broad-based resistance networks.

WOMEN FOUGHT ACROSS FRANCE

Another leading figure was Pearl Witherington. When Wake arrived in Auvergne, 30-year Witherington had already travelled the area for months as a courier and



NANCY WAKE

NAME
TITLE RESISTANCE LEADER

White Mouse teased Germans

As the wife of a wealthy French industrialist in Marseille, Nancy Wake could have sailed easily through the war. Yet she chose to be a courier for the Resistance and later fled to London, where SOE trained her as an agent.

Wake escaped the Gestapo repeatedly – they gave her the nickname White Mouse because of her uncanny ability to slip away.

- Received many honours.
- Died aged 98 in London.



1912-2011



NOOR INAYAT KHAN

NAME
TITLE RADIO OPERATOR

Princess transmitted from Paris

In London, the SOE recruited the mysterious looking Noor Inayat Khan and sent her to Paris in 1943. Here she was the organisation's first female radio operator and the only one in Paris. Later in the year the Gestapo managed to trace Khan and arrest her.

The agent ended her days in Dachau. Her last words were reportedly “Liberté” (freedom).

- Was the daughter of an Indian prince.
- Was raped and beaten in Dachau.



1914-1944



ANDRÉE BORREL

NAME
TITLE SABOTAGE COORDINATOR

Baker maiden wanted to fight

Borrel left school at age 14 to become a baker in Paris. When the war began, she helped downed British airmen back to England. Later, she recruited saboteurs to a resistance network in Paris and coordinated numerous sabotage actions.

Borrel's luck ran out in June 1943 when she was arrested by the Gestapo.

- Blew up a power plant.
- Was executed in a concentration camp.



1919-1944



VIOLETTE SZABO

NAME
TITLE COURIER

Soldier's widow wanted revenge

When Violette Szabo's husband died in battle against the Germans in North Africa in 1942, she decided to join the resistance.

Szabo was sent to France as a courier. On her second mission, she and a French Resistance fighter were arrested by the Germans. After an exchange of fire Szabo was captured, interrogated under torture and finally executed in a KZ camp.

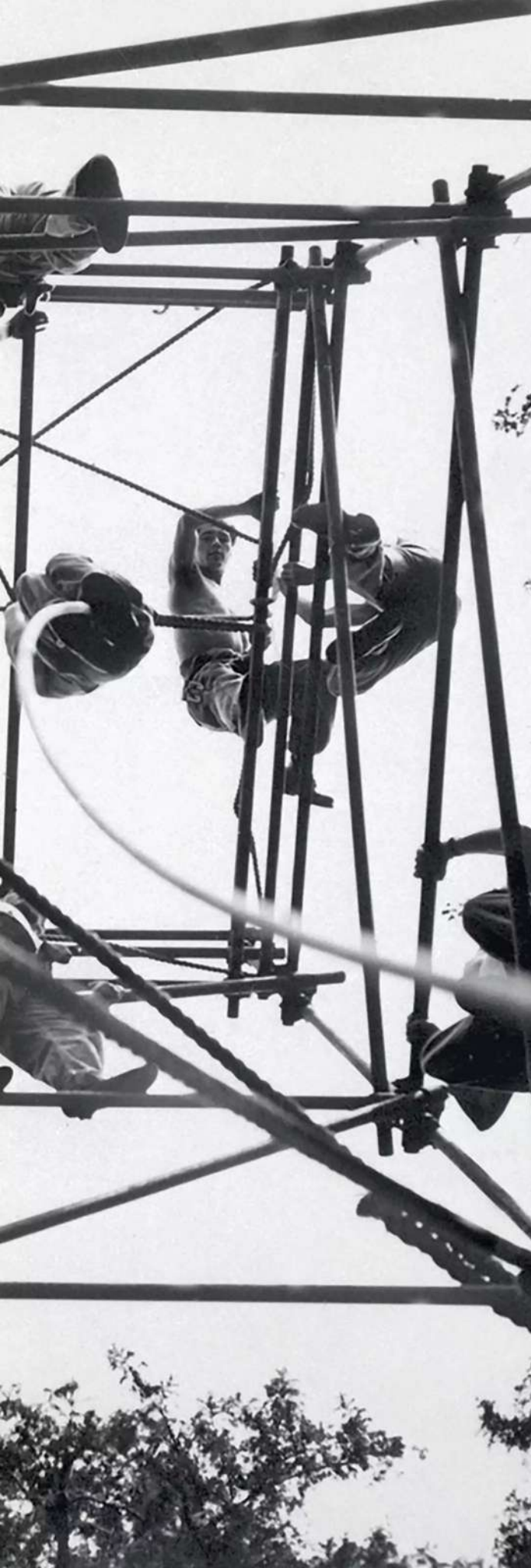
- Came from an Anglo-French family.
- Forced labour as a prisoner.



1921-1945



During the month-long training programme, agents had – for example – to get used to heights ahead of later parachuting out of a plane.



had made contact with scattered groups of resistance fighters. In the period around D-Day Witherington also became the leader of a SOE network of maquisards. Witherington was so effective that the Germans put a bounty of one million francs on her head.

Other women performed the dangerous job of radio operator, constantly in danger of being discovered by the Germans. During her time in France Irish-born operator Maureen O'Sullivan sent 332 – often vital – messages home to London from radio transmitters she'd hidden in the surrounding terrain. All over the country SOE women travelled tirelessly with orders, explosives and supplies. Thanks to their ability to direct resources London could concentrate Resistance activities on places that benefited the overall war effort most.



A thumb knife could be concealed in the hand under the fingers.

NANCY WAKE WAS ATTACKED IN TRUCK

But not even the many successful partisan attacks could prevent 22,000 SS soldiers from flowing into the part of the Auvergne Highlands, where Wake and her maquisards had successfully resisted until June 1944.

When the Henschel pilot dived down towards Wake's truck in the open countryside, she instinctively slowed. The pilot opened fire, and the bullets whipped down in the sand on the road in front of the truck. Petrified as she was, Wake had managed to avoid a hail of bullets that stopped less than 10 metres from her vehicle – the braking had upset the pilot's sight.

Twice more Wake avoided attack by the same means. But the distance to her goal – the village Freydefront – was still over three kilometres away.

Suddenly a young maquisard jumped out on the road.

"The village has been evacuated", he cried. "Quick, follow me".

Wake hurried out of the car and together they threw themselves into a ditch while the Henschel roared mercilessly down the road again, it fired close to the vehicle and rose into the air again. In the short break before the next attack Wake rushed back to the truck and came back with a saucepan, a pot of face cream, a packet of tea and a red satin pillow.

"Forgot these", she explained to the incredulous Frenchman. Seconds later the pilot hit the truck which went up in flames.

Despite renewed attacks from above, Wake escaped with her French companion to a nearby wood where the pilot could no longer see them.

SS TROOPS HAD TO GIVE UP

As the evening came SS troops moved forward in the terrain, but too late. The French, who knew the area inside out, had been alerted and managed to escape through the German lines and out to safety. Wake fled with a group who had driven logs into the bed of the deep and fast-flowing River Truyère, to create an invisible crossing to safety.

When the fighting was over, the French had lost around 100 men, while the Germans losses totalled 1,400. Meanwhile, however, another setback struck the freedom



Spy chief hunted missing agents

SOE officer Vera Atkins could not live with the uncertainty and went in search of agents who disappeared.

After the war, SOE had lost track of over 100 agents. Vera Atkins, who headed SOE's French department, travelled resolutely from Britain to clarify the agents' fates. Close to Atkins' heart were 12 of "her girls" who had disappeared without trace.

The operation defied the British authorities, who would prefer to hide the fact that women had been sent on dangerous missions.

Some agents turned up alive, but most had been killed in concentration camps.



Vera Atkins began as a secretary, but ended up as head of SOE's activities in France.

fighters: the lifeline to London had been interrupted. The radio operator, Denis Rake, had lost the transmitter and had been forced to destroy vital codes, because the Germans were close to exposing him. Wake immediately realised the seriousness of the situation. Her army of hard-fighting maquisards risked being turned into an ineffective vagrant band without adequate supplies if the connection to Britain wasn't restored quickly.

Personally, she took it upon herself to travel to the city of Châteauroux, where another radio operator could reconnect to London. Wake had to carry out most of the trip on a bicycle. But the irrepressible agent managed the 500-kilometre round trip in under three days. Sweat dripping and exhausted, she returned to her maquisards in the village of Saint-Santin. After dismounting she was thrust into a chair, at which point she shrieked:

"I'm sorry," she said, "it's just that damned bicycle. I'm so saddle-sore I could die".

Wake downed several glasses of brandy and spent the next three days recovering from the pain in her posterior.

RESISTANCE EXPELLED GESTAPO FROM COMMUNE

After restoring communication to London, July and August 1944 became the heyday for Wake and her band of maquisards. New recruits joined, and numerous resistance fighters made life miserable for the Germans with constant attacks on convoys, ambushes and sabotage. The guerrillas even forced the Gestapo out of the commune of Montluçon.

Wake participated in several ambushes and a railway attack, but most often she served as the leader who coordinated airdrops of weapons and equipment, distributing the supplies

between the troops. Occasionally London rewarded her efforts by attaching personalised packages with gifts of face cream and lipstick.

Although Wake went to great lengths to preserve her femininity, she never had affairs during the war. Many years later she explained her motives:

"In my old age, I regret it," she said. "But you see, if I had accommodated one man, the word would have spread around, and I would have had to accommodate the whole damn lot!"

"I killed a lot of Germans, and I am only sorry I didn't kill more"

"Nancy Wake, SOE operative"

HEART WAS CRUSHED

On 15th August, 1944, Allied troops landed in southern France, and a month later,

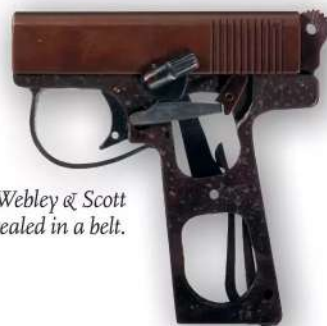
most of France was free. Only then did Wake hear that her husband Henri Fiocca had been tortured and killed by the Gestapo the previous year – without revealing where she was. Wake's heart was broken, but her war was finally over.

Thanks to Wake and other agents' efforts, the Germans found it difficult to defend against the Allied push from the west. US General – and future President – Dwight D Eisenhower believed that the SOE's effort had shortened the war by six months.

Nancy Wake was one of the war's most decorated women and received honours from Britain, France and the US.

When she died in 2011, her ashes were scattered near Montluçon, which she'd helped to liberate 67 years earlier.

The "Belt Pistol" was a modified Webley & Scott pistol that could be concealed in a belt.



Death rate for agents was high

Agents who operated behind enemy lines in civilian clothes as spies were not protected by the Geneva Convention. Captured enemy spies were often interrogated and executed. SOE warned female agents that only half could expect to return alive.

Men

were often used for agent work. In France accomplished agents ran "pinprick" operations or helped organise **the resistance struggle**.

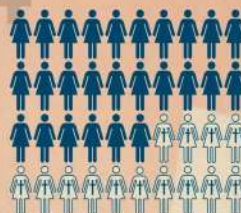


430 male agents were sent to France between 1941 and 1945.

103 died in the service. The majority were captured by the Germans and executed.

Women

worked mainly as **couriers**, organisers and radio operators.

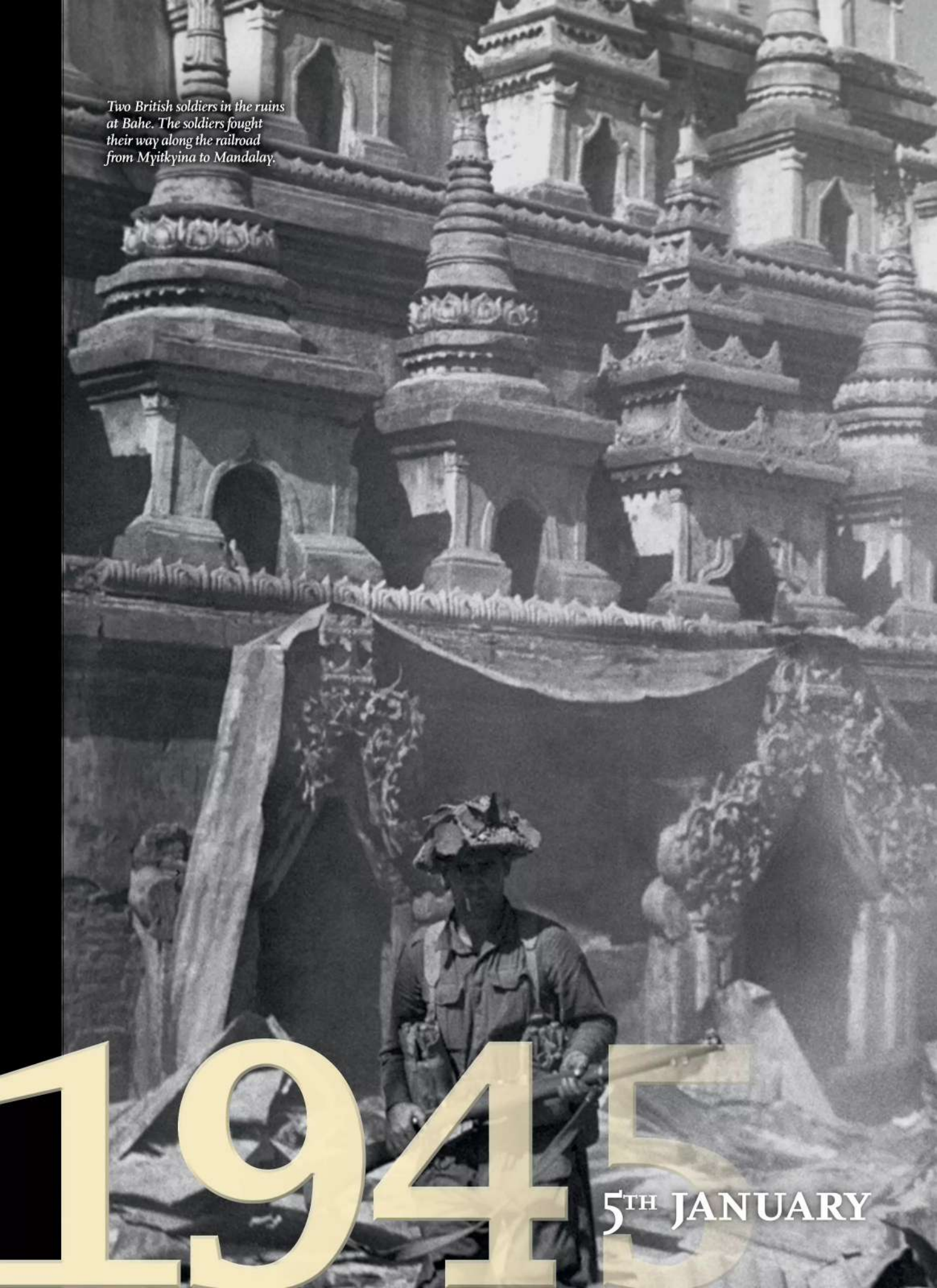


40 female agents were sent.

14 killed, several in KZ camps.

14 female SOE agents were killed – several were executed.





*Two British soldiers in the ruins
at Bahe. The soldiers fought
their way along the railroad
from Myitkyina to Mandalay.*

1945

5TH JANUARY

BRITS TAKE BACK BURMA

British colonies in Asia are threatened as the Japanese invade as far as India. The empire's advance has cost them dear, and the Brits exploit their weakness to strike back. But the Japanese will defend themselves by any means – using methods that shake the British.

THE STAGE IS SET

» The Japanese occupied Burma under the pretext of wanting to liberate the country from British colonial rule. But the empire has not kept its promise, and public opinion has turned. Now the Brits are ready to reclaim Burma, but the humid tropical climate wears down the troops, and the road through the jungle is a long one.



FREDERICK ROWLEY HELD TIGHT TO THE BAMBOO RAFT as he eagerly kicked with his legs to cross the Irrawaddy river in central Burma. The rest of his rifle company swam behind the British major with countless rafts loaded with ammunition and weapons. Fortunately, no Japanese discovered the British and Indian soldiers as they climbed ashore on the east bank of the Irrawaddy – a river that provided a natural line of defence for the eastern part of Burma, which remained under Japanese control despite the Allies' recent advance.

The hot January tropical sun quickly dried the men's clothing while they laced their boots, hoisted their equipment and trudged through the bamboo grass alongside the river. Several kilometres ahead they heard the enemy's artillery thunder down on the channel where most of the British troops were attempting to cross the Irrawaddy. Here, motor boats and soldiers were blown to smithereens as they crossed the river, and even those who managed to

The monsoon halted fighting during the wet season from May to September. Many metres of rainfall fell, and Burmese roads were turned into rivers, while its valleys became lakes.

land found it hard to establish a safe zone for the British on the east bank, as Japanese shells relentlessly rained down on them from a nearby pear-shaped hill.

"I want you to get Pear Hill and hold it", was the order from the 19th Division's commander Major General Pete Rees as Rowley and his company finally arrived to relieve the beleaguered forces.

As the sun went down, Rowley led his rifle-bearing heroes towards the foot of Pear Hill, where he selected just three men to continue with him up the hill's rocky terrain to reconnoitre the enemy's positions. On their way to the summit, a Japanese soldier suddenly emerged from some bamboo trees with his samurai sword, but just three metres before he reached Rowley one of the major's men fired a bullet into his body.

"Get up, advance at once", Rowley shouted down to the rest of his men, who hurried up the steep hill.

Now alerted, the Japanese fought fiercely from their artillery base at the top of Pear Hill, but Rowley's troops moved from tree to tree towards the enemy position and killed every last defender. The Japanese bombardment had been halted, and British troops could finally sail across the Irrawaddy in safety. The road to Mandalay and Rangoon had been opened.

BRITISH PLANNED REVENGE

When British troops crossed the Irrawaddy in January 1945, they were intent on recapturing their former colony. Three years earlier, the Japanese had penetrated deep into the jungled mountains between Thailand and Burma and within five months had all but driven the British out of their colony. The imperial troops were skilled warriors, and the British had been forced to flee through jungle hell to safe ground in India.

The invasion had taken place under the pretext that Japan was liberating Burma from colonial rule, but in reality the country's strategic importance had attracted the generals from Tokyo. The country was rich in rice, oil

A British soldier with the new shorter, lighter "Jungle Carbine" rifle.



Troops from the 20th Division search for Japanese. Soldiers from across the British Empire took part in Burma.

Rangoon was reached in six months

Despite a tough road through the jungle, the British were able to push the Japanese all the way back through Burma in just six months.

1 The British fan out

December 1944: Allied forces under British general William Slim initiate a counter-advance against Japanese troops in Burma. Northern, central and southern fronts are opened.

2 Landing on Ramree Island

19th February, 1945: British forces land on Ramree Island, forcing Japanese troops to be diverted here. This opens the road to Rangoon for Slim's troops on the central front to occupy the capital.

3 Meiktila falls after two weeks

3rd March: Meiktila falls into British hands after the Indian 17th Division – part of Slim's 14th Army – take the city after two weeks of heavy fighting. The loss of Meiktila means the Japanese in Mandalay can no longer receive help from the south.

4 Japanese flee from Mandalay

7th March: the 19th Division reaches Mandalay. After a short siege, the remaining troops from the Japanese 15th Army take flight. The Japanese leave the city on the night of 19th March, after which British soldiers can once again hoist the Union Jack in Burma's former capital.

5 British capture the capital

3rd May: Operation Dracula drops British paratroopers south-west of Rangoon. They – along with Slim's troops from the north – occupy Rangoon unopposed after Japanese troops have already withdrawn.

British soldiers received the Burma Star medal for their efforts in the campaign.



British infantry accompanied by US Sherman tanks travel from Meiktila to Rangoon on 3rd May, 1945.

Heat was a killer

Fierce heat and high humidity meant that Commonwealth troops were provided with special clothing and hats to shield soldiers against the tropical sun.



Machete was effective when the soldiers had to force their way through the jungle's dense vegetation.

Aluminium canteen was essential in the tropical climate.



The badge for the 14th Army's 81st West African Division was a black tarantula.

The rifle was a Lee Enfield No 4 – later replaced the No 5 Mk I – the “Jungle Carbine”.

Boots were typically double-seamed to improve their durability.

Hat was more comfortable than a helmet in the heat and protected from sun stroke.

Lightweight shirt was airy, so the skin was better able to breathe in the tropical heat.

Trousers could be adjusted to fit when soldiers lost weight.

Lance corporal

Gaiters provided protection against bites from insects and cuts from the thickets.

BURMA WAS FULL OF DANGER

FACTS

■ **Malaria-carrying mosquitos** were the biggest threat to soldiers' lives and were fought with DDT.

■ **Rats** thrived in the camps. They increased the risk of disease and crawled on the men day and night.

■ **Snakes** were common and venomous in Burma – the king cobra and Russell's viper were particularly dangerous.

■ **Spiders** thrived in the humid jungle, and their poisonous bite made many soldiers ill.

■ **Scorpions** were toxic, but not fatal – unless the soldier was allergic.

■ **Crocodiles** posed a major threat, especially for wounded soldiers who were easy prey for the ferocious beasts up to five metres long.

and wood, and offered a good outer line of defence with its mountains, valleys and jungles on the Indian border. It ensured Japan's other conquests in south-eastern Asia were well-protected and offered the bonus of allowing the Japanese to close the Burma Road that led into southern China, preventing the Allies from supplying the Chinese in their fight against the empire.

In the spring of 1944, however, Japanese generals became greedy and pushed on through the jungle to the cities of Imphal and Kohima in India. Invading general Kenya Mutaguchi felt so invincible that he'd arranged for Korean girls to be flown in to celebrate the victory. Instead, the Japanese were soundly beaten and lost 55,000 men – a large number succumbing to tropical diseases including malaria and dysentery. Japan's strong position in Burma was suddenly

severely weakened and matters were made worse when the empire's supply ships found it increasingly difficult to transport supplies from Burma's ports as a result of the Americans' dominance in the Pacific.

British general William Slim saw an opportunity at the end of 1944 to exploit the Japanese crisis and retake Burma. He planned to lead his 14th Army through the central part of the country to Mandalay and Rangoon as part of Operation Capital, while northern and southern fronts would be opened to keep the enemy occupied in the rest of Burma.

ELEPHANTS PAVED THE WAY TO THE EAST

Although the Japanese had pulled most of their army back to the east side of the Irrawaddy, a gruelling trip to the river

awaited Slim's multi-national force, comprising Scots, Englishmen, Indians, Gurkhas and even Africans recruited from British colonies. Every day they pounded through the dense jungle, breathing in the hot and humid air, constantly on guard against snakes and other perils on the jungle floor.

Slim had learned that good supply lines were vital during his war years in Burma. His engineering corps were tasked with improving paths and roads to allow heavy vehicles and artillery to pass through the dense vegetation. Bulldozers mowed down the scrub and undergrowth, while the British also used elephants to pull up trees and transport them to swampy areas where the trunks could be used to create navigable pathways. Elephants were also a boon when engineers had to build bridges over major rivers as their muscle and manoeuvrability made them the perfect tools in the inhospitable terrain.

Slim's second supply line came from the air, which was eventually cleared of Japanese planes, allowing Allied aircraft to drop boxes of equipment and supplies as the troops struggled on. The general knew that full stomachs, medicine and ample ammunition could make the difference against the starving and disease-ridden Japanese.

As they progressed through the jungle, the British met small groups of battle-hardened Japanese who'd not yet retreated behind the Irrawaddy. Snipers hid in the treetops, and soldiers sneaked into the British at night and fell on them in fierce close combat with bayonets and samurai swords. But despite the element of surprise, Slim's forces were not nearly as frightened as they'd been earlier in the war.

"In the early days they really were an invincible force until we learned jungle craft and battle craft and realised we were superior", recalled English military doctor Desmond Whyte, who along with his war comrades refused to cower to the Japanese sneak attacks – on the contrary, the British soldiers were incited by them:

"They were utterly ruthless and without compassion", Whyte explained. "I found a friend pinioned to a teak tree with a bayonet through both left and right wrist, and the lower limbs missing, eaten by jackals. The aim was to make us so terrified that we wouldn't wish to continue fighting. It had the opposite effect".

JAPANESE FLED INTO SEWERS

Major Frederick Rowley had not allowed himself to be intimidated by the Japanese on the east side of the Irrawaddy, where his capture of Pear Hill meant that tanks and lorries could now be safely transported across the river on giant timber rafts.

Rowley was lauded for his efforts by Major General Rees, who was now able to direct his 19th Division in a southerly direction towards Mandalay – the beautiful holy city that had been Burma's capital prior to British colonial rule. By early

March, Rees could spy the tops of Mandalay's many pagodas in the distance.

Also towering up was the almost 300-metre-high Mandalay Hill, in which lay hundreds of Japanese soldiers in excavated caves from where they could attack the enemy with machine guns and shells. The hill was almost a gigantic bunker with massive space inside its interior, but after thorough bombardment, a group of Gurkhas managed to creep up the hill under cover of darkness.

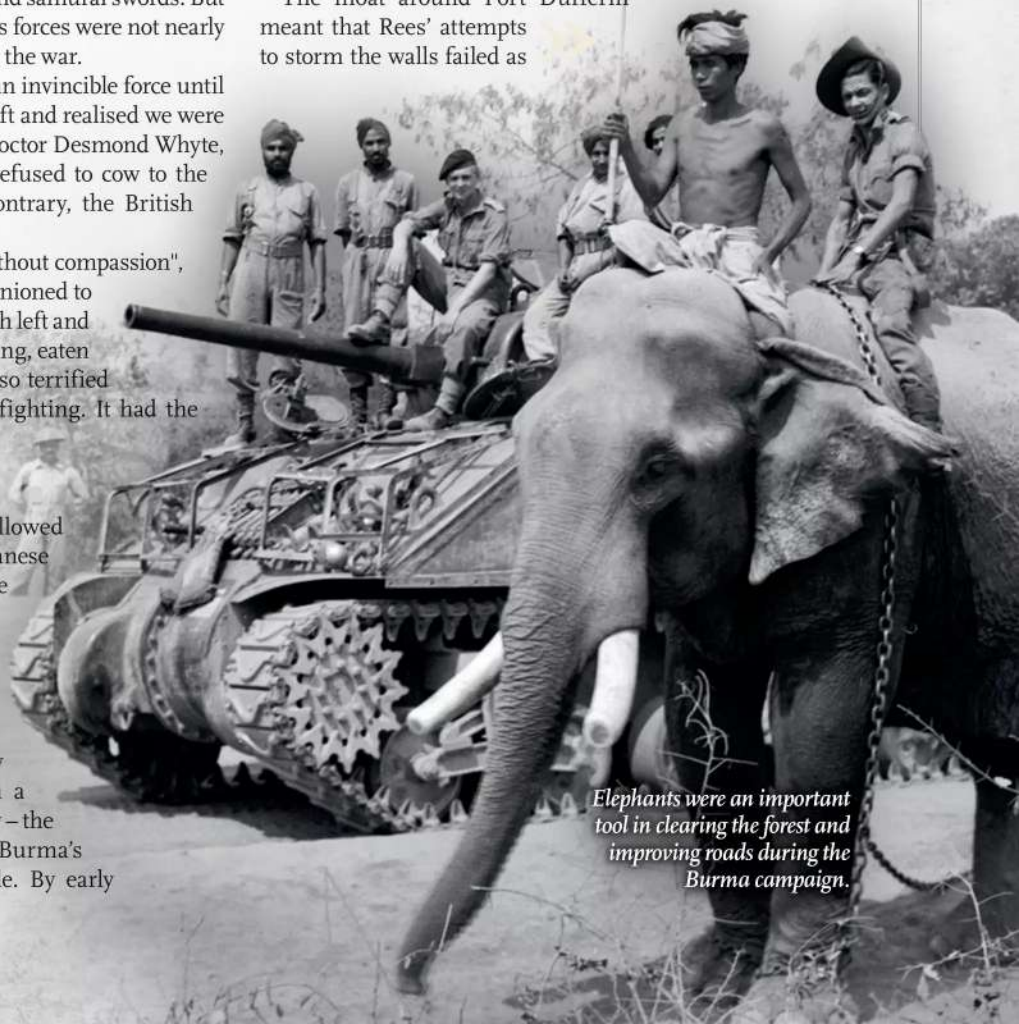
"The infantry could not get the Japs out of the caves, so they drilled holes and poured in oil and set fire to it. Most Japs stayed in the caves; others, in full view of us, jumped from the caves all alight", said gunner James Baker who took care of those soldiers who weren't stifled by the smoke in the caves.

After capturing Mandalay Hill on 12th March, Rees was now free to focus on the city's fortress, Fort Dufferin, where the rest of the Japanese were entrenched. The British Burmese offensive had evolved from jungle warfare to a medieval siege. Rees did not want to damage the old capital's beautiful buildings with a bombardment, so surrounded Fort Dufferin to accelerate its capitulation. The Japanese were now cut off from supplies or reserves now Rees' troops controlled the area north of Mandalay, and to the south, British forces had now crossed the Irrawaddy and captured the important city of Meiktila to side-line the Japanese there too.

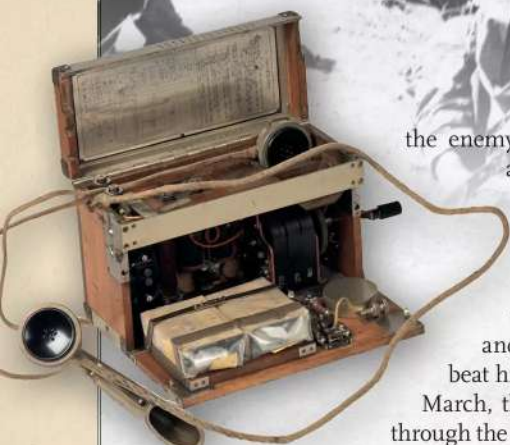
The moat around Fort Dufferin meant that Rees' attempts to storm the walls failed as

70 percent of

British soldiers suffered from malaria in the war's first year until General Slim introduced quinine as compulsory treatment, which cut the number to just five percent.



Elephants were an important tool in clearing the forest and improving roads during the Burma campaign.



A Japanese field phone that unlike radio, had to be connected to a wired network to function.



Japanese soldiers lie dead on the ground after the failure of their last attempt at a counter-attack in the city of Meiktila.

the enemy had time to mow the attacking soldiers down.

Instead, the British major general planned a sneak attack through Mandalay's sewers, but the increasingly hungry and despondent Japanese beat him to it. At night on 19th March, the imperial troops crept through the excrement and rats of the city's underground sewers before crawling out of the city.

During the day the British intercepted many Japanese fugitives, and the mood reached a peak when

Rees hoisted the Union Jack up in the city centre. Mandalay was British once more.

Now Burma's old capital had been retaken, the new one awaited. General Slim, escorted by two Spitfire aircraft that had landed in Mandalay, now promptly directed his main front to the south. British soldiers were now being supported by the Burma National Army and rolled towards Rangoon with two separate forces, but time was working against them, as the capital had to be recaptured before the monsoons in May. The heavy rains transformed all land into a muddy swamp, while the weather system's cloud cover and strong winds would put air support out of the game.

The route to Rangoon saw jungle and rainforest mostly replaced by steppes and semi-arid areas, which made the passage easier. But the fanatical fighting Japanese continued to impede progress. Self-sacrificing Japanese raiders formed living minefields, where soldiers dug down with 250-kilogram aerial bombs, which they set off by hammering a brick into

the detonator when the British tanks rolled over them. This unusual Japanese tactic meant that Allied troops were always suspicious of the enemy.

"There was no compassion between British, Indian, Gurkha and Japanese", recounted trooper Malcolm Connolly from the 3rd Carabiniers. "Even if he put his hands up, you didn't trust him. Vast numbers of Japanese were killed in the last stages. They were just like targets in a fun fair. If you saw a dead Japanese lying there, you drove the tank over him, because you didn't trust him".

PARATROOPERS CAPTURED RANGOON

In late April, Slim approached the capital with his troops, but to increase pressure on the Japanese, Allied paratroopers were dropped south-west of Rangoon on 2nd May. One of the operation's escort planes flew over the capital and noted that "Japs Gone" had been written on the roof of the city prison. When the troops stormed the city the next day, they discovered the words to be true. Four days earlier, the Japanese garrison

had withdrawn with Burmese commander Heitaro Kimura, sailing to Mawlamyine (now Moulmein) on the other side of the Gulf of Martaban, where the imperial army had only a short trek to Thailand, which was sympathetic to the Japanese.

Slim's men also flocked into the strategically important Rangoon over the following few days, as the monsoon rains began in earnest. Britain's timing had been perfect, and the Burmese offensive was effectively over, although Allied forces continued to hunt down those remaining

Japanese trapped in isolated pockets or attempting to retreat to Thailand. In the previous few months, the British had only lost a few hundred men, while the Burma campaign of 1945 cost their enemy 80,000 lives. It was only on 12th September, 1945, however, that remaining Japanese forces formally surrendered in Burma.

One million

Burmese lost their lives during World War II.

Disease and hunger as a result of the war were by far the biggest killers among the civilian population.

Three people shaped Burma's destiny

The Burmese people suffered from foreign powers' desire to "liberate" the country during the war. Three people took the lead in the struggle for Burma, which only gained independence three years after the war.



A British captain's bugle, which were still used in Burma.



Aung San fought for an independent Burma and paid with his life.

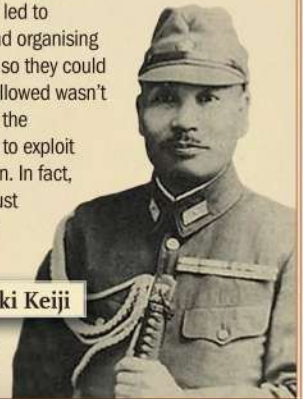
Burmese sought liberation

Aung San led Burma's nationalist army and played a key role after the war after becoming the country's leader during British rule. He negotiated for independence until 1947, when he was assassinated by political opponents. Although Burma became independent in January 1948, the country has been unstable politically ever since, dominated by a series of ruthless military dictatorships.



Japanese planned fake liberation

In 1941, the Japanese government offered to liberate Burma from British colonial power, which led to intelligence officer Suzuki Keiji training and organising the Burmese nationalist groups in battle, so they could expel the British from Burma. But what followed wasn't what the Burmese had dreamed of when the government in Tokyo thought only of how to exploit Burma and its resources for their own gain. In fact, with its puppet regime, the country was just subsumed by a new power, and Burma's dream of freedom had been abused.



Suzuki Keiji

Keiji's idea of an independent Burma did not fit the Japanese government's.



Brit strived to reconquer

Britain's answer came in the form of William Slim's major offensive in 1945, and it helped the general that the Burmese nationalists were no longer in thrall to the Japanese, switching to the British side to participate in the country's recapture. Back in London, however, plans for Burma's future were uncertain, and the fierce demands for freedom among the Burmese during the war indicated that Burma would not be able to return to its past status as a British colony.

William Slim

General William Slim fought in both the First and Second World War.



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Editor-in-chief: Hanne-Luise Danielsen

Production: Pernille Aagaard

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Licensing and Syndication:

Regina Erak – regina.erak@globalworks.co.uk

Tel: +44 (0)7753 811622

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Desert Rats sent Hitler packing

In October 1942 Bernard Montgomery attacked the Germans' victorious field marshal Erwin Rommel in the Egyptian desert. After a brilliant manoeuvre the Brits drove a wedge between the enemy forces, and Rommel had to flee. The defeat prevented the Germans from reaching the Middle East's rich oil fields and crippled Hitler's war machine. Back home the Desert Rats' victory provided the British with a belief that the Nazi terror could be defeated.



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